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In This Issue

Anglo-Patagonian • *HMS P311* • *Manasoo* • *Rotorua*
Skeletons in the Sand • *Souffleur* • *Twilight*

The *Manasoo*

Shedding Light on a
Dark Sinking

Within Reach

The Wreck of Passenger
Lake Steamer *Twilight*

Skeletons in the Sand

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Wreck Diving Magazine travels the globe in search of interesting stories to bring to our readers. We present our articles in full-length feature format, of interest to all divers from recreational to technical, and to non-divers interested in history and our beautiful underwater world.

in this issue?

On the Cover: The intact pilot house of the 1928 Lake Huron wreck of the steamer, *Manasoo*, located in the summer of 2018, is but one of the several absolutely unique features of this exceptional shipwreck. (Photograph by Ken Merryman, article on page 28.)

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Every issue, *WDM* gives readers a preview into books or videos that may be of interest to wreck divers. | **Review by Charles George**

Lake Erie Technical Wreck Diving Guide

Written by Erik A. Petkovic, Sr.

Author Erik Petkovic has done it again! He has followed up his last book, *Shipwrecks of Lake Erie Volume One*, with this new, informative, and well-written book, *Lake Erie Technical Wreck Diving Guide*. Lake Erie is a wreck divers paradise containing between 2000 and 4000 shipwrecks, more shipwrecks than any inland sea in the world. In his new book, Petkovic has profiled 19 diveable shipwrecks in great detail and has ranked the dives as Deep - Technical - Trimix. As with all dive guides, this book is an informative guide only written to provide divers with information regarding the wrecks. All diving decisions, including gas mixes and dive planning are up to the individual diver.

As with his previous book, author Erik Petkovic has done a brilliant job researching the diving and the history of these shipwrecks. *Lake Erie Technical Wreck Diving Guide* is organized in a practical fashion with useful and interesting information on the sunken vessels including when and how they were built, the routes they plied during their service, the tragedy of their losses, their eventual discoveries, and detailed information on the dives themselves.

Lake Erie Technical Wreck Diving Guide presents dossiers on each wreck dive with practical and valuable information regarding the dives, including the maximum depth, visibility, the water temperature, and what to look for on the dive; this provides the information that is needed to successfully plan a dive on these wrecks. After reading the rich and detailed history about these shipwrecks, not only do I want to dive these wrecks, I am much more prepared to dive them safely and I have a good idea of what to expect and see on the dives.

Lake Erie Technical Wreck Diving Guide is well researched and documented and contains many archival illustrations and underwater photographs. If you are going to dive Lake Erie wrecks, this book is an indispensable and a much-needed diving companion that will help you plan and execute these wreck dives safely. Be sure to put this book into your dive bag and go dive the wrecks!

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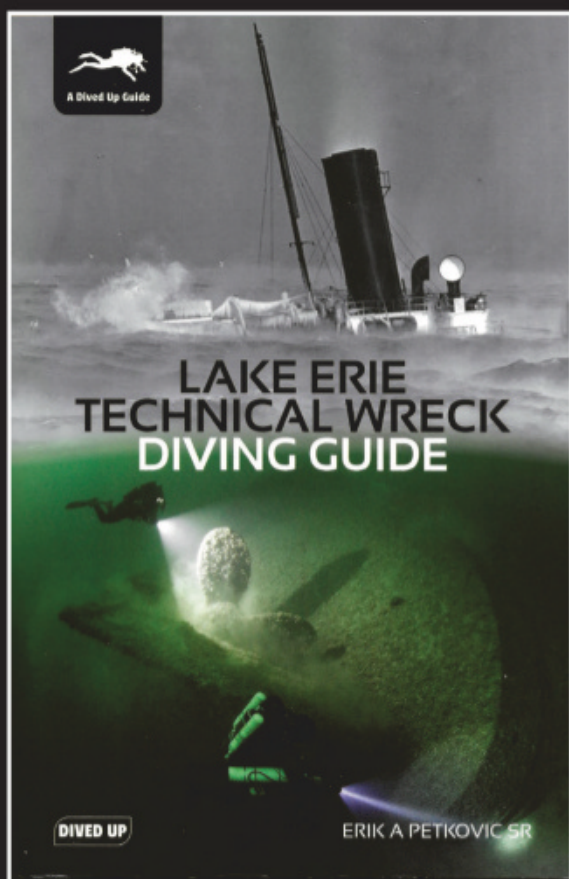
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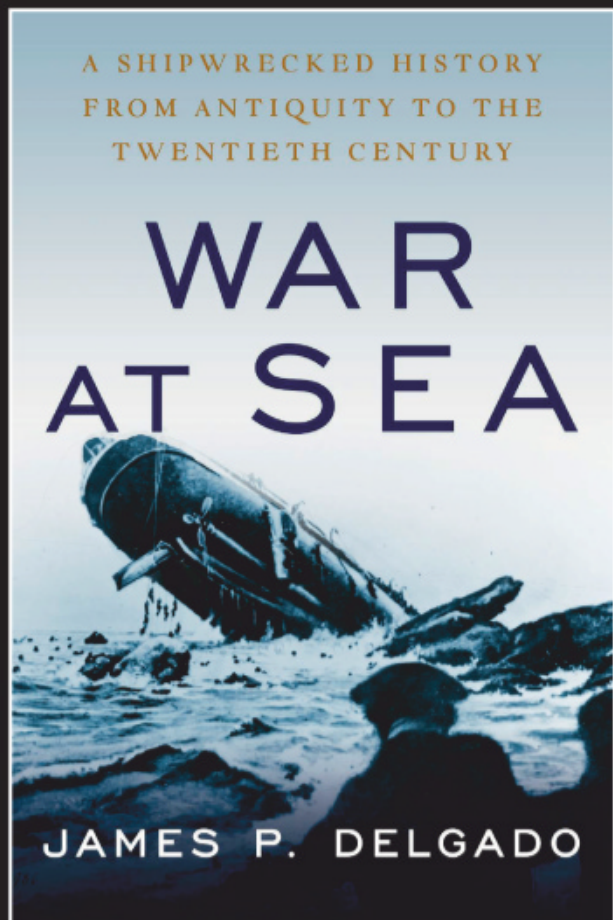
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War at Sea: A Shipwrecked History from Antiquity to the Twentieth Century

Written by James P. Delgado

James Delgado is a maritime archaeologist, explorer, historian, and friend of WDM. James has worked with the National Park Service, served as the Director of the Maritime Heritage Program for the U.S. National Oceanic and Atmospheric Administration's (NOAA) Office of National Marine Sanctuaries, and represented the United States in international meetings with UNESCO. During his 45-year career, James has always been a friend to the diving community and has consistently recognized that access to underwater cultural resources should not be solely limited to government archaeologists with the outright exclusion of the public and has strived to keep these wrecks accessible to everyone when practical. He fundamentally understands that the public must not only have access to these underwater cultural resources in order to see them and enjoy them, but also to help develop widespread support for the long-term preservation of these often-forgotten, historical time capsules, war graves, and historical trea-

asures. James is a champion of the wreck diving community because he too is a wreck diver.

The sea is truly the earth's greatest battlefield and James Delgado's newest book, *War at Sea: A Shipwrecked History from Antiquity to the Twentieth Century*, tells the story of this often forgotten, yet important, battlefield. For millennia, "the sea has defined our history since the beginning of human endeavor." Everything from food sourcing, transportation, commerce, and war is still transpiring on the sea. The sea is truly the "source of our life and the connective thread of our commerce." *War at Sea* is a documentary of the history of naval warfare written and arranged in a chronological fashion beginning with the first true warship, war canoes, humanity's oldest watercraft, followed by ancient Egyptian Rams, Phoenician sailing ships, Greek and Roman galleys, Viking ships, and early Chinese sailing vessels that allowed early empires to project power, engage in commerce, further science, and rule the sea.

From lost Spanish galleons to the wrecks of the American revolution, *War at Sea* examines shipwrecks and sea battles with more familiar names like the 1805 Battle of Trafalgar "fought by the British Royal Navy against the combined fleets of the French and Spanish Navies" and the Battle of Tsushima Strait, the "major naval battle fought between Russia and Japan during the Russo-Japanese War," to the more recent battles of the First and Second World Wars like the Battle of Jutland, Pearl Harbor, the Battle of Midway, and the lost ships of the Cold War.

Delgado does a superb job of informing the reader not only of the historical aspects of the battles, the lives of the sailors, and the military-historical impact of these battles, but also of the contemporary issues regarding salvage rights, court battles, and cultural debates regarding the future protections and economic exploitation of these historical treasures.

War at Sea is well researched and presents a historically accurate narrative of the world's naval heritage in an organized fashion, giving the reader a thorough understanding of the development of warships and commercial craft and the shipwrecks through the ages. If you love history and shipwrecks, put this book in your library!

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It is with a heavy heart and deep sadness that I must write this column. My good friend, mentor, and a great friend of *Wreck Diving Magazine*, Robert "Bob" F. Marx has passed away. Most of you know Bob because he was a world-renowned underwater archaeologist, public speaker, pioneer scuba diver, author of over 50 books, and contributor of wonderful articles in *WDM*. Bob was famous for his truly heroic and swashbuckling adventures in his younger years when he did what most of want to do but just dream about. He was a larger-than-life figure, a man of adventure who lived life to its fullest. An inspiration for us all!

Bob influenced and motivated many people in his life to do great things. He was a world leader in marine archaeology and an expert in maritime history. He motivated and encouraged me to attend law school and become an admiralty attorney, and Bob became one of my first clients.

Born on December 8, 1936, in Pittsburgh, Pennsylvania, he left home at an early age and embarked on a life of adventure that took him around the world and under the sea. Bob is best known for the archaeological excavation of the sunken city of Port Royal for the government of Jamaica as well as the discovery of the 1656 Spanish galleon, *Nuestra Señora de las Maravillas*, shipwrecked off Grand Bahama Island. But Bob did so much more!

Bob's many achievements include the discovery of previously unknown Mayan archaeological sites in Honduras and Yucatan and the reenactment of Columbus' 1492 transatlantic voyage on a replica of the *Niña*, for which he was made a Knight Commander in the Spanish Government's Order of Isabella the Catholic. In 1964 and again in 1969, he was the organizer and captain of two voyages of replica Viking ships in order to demonstrate the possibility of pre-Columbian transatlantic contact.

Sir Robert spent many years performing painstaking archival research in Spain and other countries. His research led him to discover more than 5,000 shipwrecks in over 60 countries, including Phoenician and Roman shipwrecks in the Mediterranean, and Chinese, Dutch, Spanish, and Portuguese shipwrecks in the Atlantic, Pacific, and Indian Oceans. Artifacts he discovered grace museum exhibits and private collections throughout the world. Bob was also instrumental in crafting shipwreck preservation legislation for UNESCO and numerous national governments.

Even in his later years, Bob would remind me that he was a proud United States Marine and a Korean War combat veteran. More times than I can remember he would tell me, "Chief, once a Marine, always a Marine! And don't you forget it!"

Bob left this world at the age of 82 on July 4, 2019, Independence Day. I just can't help wondering if he is looking down from Heaven and laughing as he knows that we will never forget the date he left us!

He was a true friend, a patriot, and a larger-than-life figure that I miss every day. Bob was my friend. God speed, Sir Robert, and may you rest in peace!

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SAVE THE DATE

From the Debris Field...



By Cris Kohl

Wreck divers are invited to submit short pieces of information about a shipwreck currently in the news in their general area. Perhaps there is not enough information, or not enough archival and/or underwater images, to submit it as a full-length article, so this *From the Debris Field...* column becomes the ideal venue for a short piece. This, however, does not preclude it from becoming a full-length article in the future.

We welcome short, written submissions, ideally, but not necessarily, accompanied by a photograph or two, for future issues of *Wreck Diving Magazine*. Please send them to joe@wreckdivingmag.com

Drinking Shipwreck History

Just in case divers didn't think exploring shipwrecks was exciting enough, there is now another reason to go wreck diving: to find vintage beer and have it scientifically recreated from its original yeast and other components, in effect creating "Jurassic shipwreck beer!"

This process appears to have started in 1991, when a British brewer, using yeast salvaged from a barge that sank in the English Channel in 1825, created a beer called Original Flag Porter.

BALTIC SEA SHIPWRECK

More recently, in 2010, divers found a merchant shipwreck in the north Baltic Sea off the unusual Aaland Islands lying between Sweden and Finland, where the inhabitants speak Swedish, the isles belong to Finland, yet they have autonomous local government. Research could not yet name this shipwreck reportedly lying in 40 feet [12 metres, but another report says 50 metres, which is 165 feet] of water, and the date it sank could only be estimated to have been 1842. Next to 145 bottles of champagne that were still drinkable, divers found five corked bottles of beer. This had to be a luxury beer, as it was transported in individual bottles rather than mass-volume barrels, yet it was likely undrinkable after 168 years under water. (Beer does not hold up as well as champagne under water.)

Upon chemical examination, research technicians in Helsinki determined that the beer was probably brewed in Belgium. Belgian scientists then analyzed the exact ingredients, including the specific type of yeast and the "living lactic acid bacteria," and determined how the ancient beer had been brewed.

By 2014, the Stallhagen brewery in Finland was mass-producing this kind of shipwreck beer so that people could taste the flavor enjoyed by their great-great-grandparents. With an alcohol content of 4.7%, and a golden yellow appearance because it uses very few hops,

the beer tastes sweeter than today's brews due to the way the malt was produced so long ago.

The brewery produces two types of shipwreck beer: a collector's edition with original, pure ingredients in a specially-made bottle called "Stallhagen 1842" (of which they produced only 1,000 bottles priced at \$143 US each), and the mass-produced "Stallhagen 1843" (120,000 bottles were initially produced, selling for \$7 US each), using replica, or substitute, ingredients available today. Some of the profits are earmarked for further research of the wreck, plus public projects on the islands.

THE SYDNEY COVE SHIPWRECK (AUSTRALIA)

In 2016, a similar event occurred in Australia, but involving an even older shipwreck! The British merchantman named the *Sydney Cove*, while en route from Calcutta, India, to Port Jackson (later Sydney), Australia, in early 1797 with a cargo of provisions such as tea and rice, other goods such as tobacco, and 31,000+ litres of alcohol, took on water and was run aground at a sheltered location on the southern

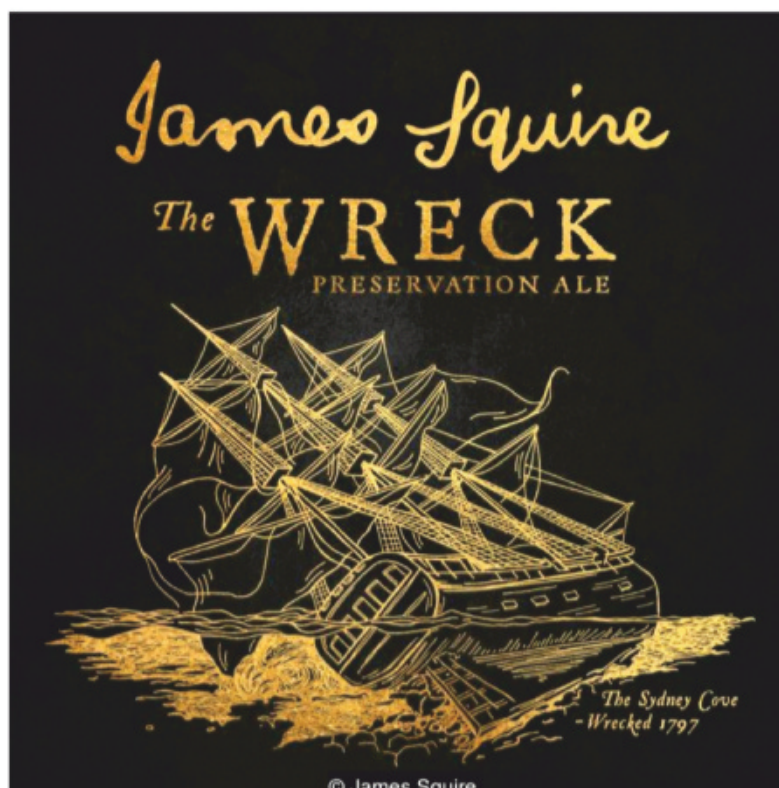


Above: Divers in the 1990s, working the site of the 1797 *Sydney Cove* shipwreck, found several sealed bottles of beer from that shipwreck embedded in the bottom. (Courtesy of the Queen Victoria Museum and Art Gallery, Launceston, Tasmania)

Inset: The world's oldest surviving beer was found on the wreck of the *Sydney Cove* off the northern coast of Tasmania. This eighteenth-century bottle was one of several that were still perfectly sealed. (Courtesy of the Queen Victoria Museum and Art Gallery, Launceston, Tasmania)

end of Perseverance Island, off northeast Tasmania. Everyone reached shore safely, and most of the cargo was saved. Seventeen men attempted to sail a longboat several hundred miles to Sydney for help, but were soon wrecked on Australia's mainland. They attempted to walk up the very long coast to Sydney. Only three of them made it. Most of the survivors at Perseverance Island were eventually rescued by ships from Sydney.

In 1977, scuba divers found the wreck of the *Sydney Cove* in 10 to 20 feet [3 to 6 metres] of water, and subsequent excavation work at the sandy-bottomed site



Top: There are no known contemporary artists' renditions of the merchant sailing ship named the *Sydney Cove*, but this vessel, the *Marquis Cornwallis*, closely resembled it. (State Library of New South Wales, Australia)

Bottom: The world's oldest surviving shipwreck beer was brought back to life by Australia's James Squire Brewery. (Copyright James Squire Brewery, Australia)

by archaeologists in the early 1990s yielded sealed bottles of beer. David Thurrowgood, a conservator at the Queen Victoria Museum and Art Gallery in nearby Launceston, Tasmania, and a former chemist, thought that they might be able to culture yeast and recreate beer as it existed 220 years earlier. Assembling scientists from Germany, Belgium, and Australia, and using DNA techniques, Thurrowgood soon separated and identified two important, older strains of yeast, establishing this as the "oldest surviving yeast micro-organism from a brewery or pre-industrial revolution food

source in the world." Further historical research indicated that the beer was imported from London to Calcutta in barrels before being bottled for the journey to Sydney.

After isolating the live yeast at the museum, the team used it and an eighteenth-century English ale recipe to brew beer. Comfortable with their findings, the scientists arranged with Australia's James Squire's brewery to recreate the original and produce it for the mass market. Described as being rich and smooth, with hints of blackcurrant and spices, and named "The Wreck Preservation Ale," the beer, available in bottles or "on tap," has proven to be very popular. Again, some of the profits will be used for further shipwreck research and work.

Incidentally, James Squire (1754-1822), a convict transported in 1788 on the first ship that took prisoners from England to Australia, Britain's new penal colony, grew tired of waiting for alcohol to arrive on vessels from the mother country, so he took matters into his own hands, becoming the first person to successfully grow hops down under – and becoming Australia's first beer brewer, a bit of true history very much in keeping with the spirit of Oz.

THE OREGON SHIPWRECK (USA)

That brings us to 2019 and another shipwreck that carried beer. On March 14, 1886, the British passenger liner named the *Oregon*, with 852 people onboard, cruising from Liverpool to New York City, sank after colliding with a schooner near Fire Island, New York, with one person perishing.

In 2017, after storms shifted the bottom sands and made the first-class dining room somewhat available for examination, diver Jamie Adams and his buddies, digging deep into the sand, recovered a total of 26 sealed bottles of beer from this wreck lying in 135 feet [41 metres] of water. The fact that he had opened the Saint James Brewery at Holbrook, NY, nearly two decades earlier, and that he was familiar with the experimentation from the *Sydney Bay* wreck beer in Tasmania, compelled him to create a shipwreck beer from the wreck of the *Oregon*.

Its taste is "slightly fruity with a hoppy finish," and he believes it is descended from a now-obsolete line of beer used by Bass Brewers in England in the 1880s called King's Ale. Adams calls his beer "Deep Descent."

With these shipwreck beers surfacing in recent years, wreck divers can now, literally, enjoy a taste of history!

Malaysia Airlines Search Yields Shipwrecks

On a more sober note, the world's most expensive search in the Indian Ocean for Malaysia Airlines Flight MH370, which disappeared on March 8, 2014, with 239 people, has not yet located the fuselage of the missing aircraft – but instead found two nineteenth-century shipwrecks.

On May 19, 2015, the scattered remains of a wooden vessel, believed to be either the 118-foot-[36-metre]-long brig, *W. Gordon*, built at New Glasgow, Nova Scotia, Canada, in 1866, and lost on a voyage from Scotland to Adelaide, Australia, via Capetown, in June 1876, or the similar sized *Magdala*, lost in early 1882 while enroute

from Wales to Indonesia.

On December 19, 2015, a double-decked, iron-hulled shipwreck was located, most likely the 220-foot-[70-metre]-long barque *West Ridge*, which sank with all 28 hands in July, 1883, while carrying coal from Liverpool, England, to Bombay, India. This iron wreck is considerably more intact than the wooden discovery.

Both shipwrecks were nineteenth-century merchant sailing vessels, both carried coal, a dangerous, flammable cargo, particularly precarious for a wooden ship, both have extensive debris fields of coal, both were lost with all hands, and both rest in depths of approximately 2.3 miles [3.7 kilometres] below the surface. The wrecks are reportedly only 22 miles [36 kilometres] apart, but they lie approximately 1,400 miles [2,250 kilometres] southwest of Australia.

They are the deepest shipwrecks found to date in the Indian Ocean, and are considered the most remote shipwrecks in the world.

The wrecks of two modern trawlers that were lost in the late 1900s were also found, but no research or media announcements were done on them.

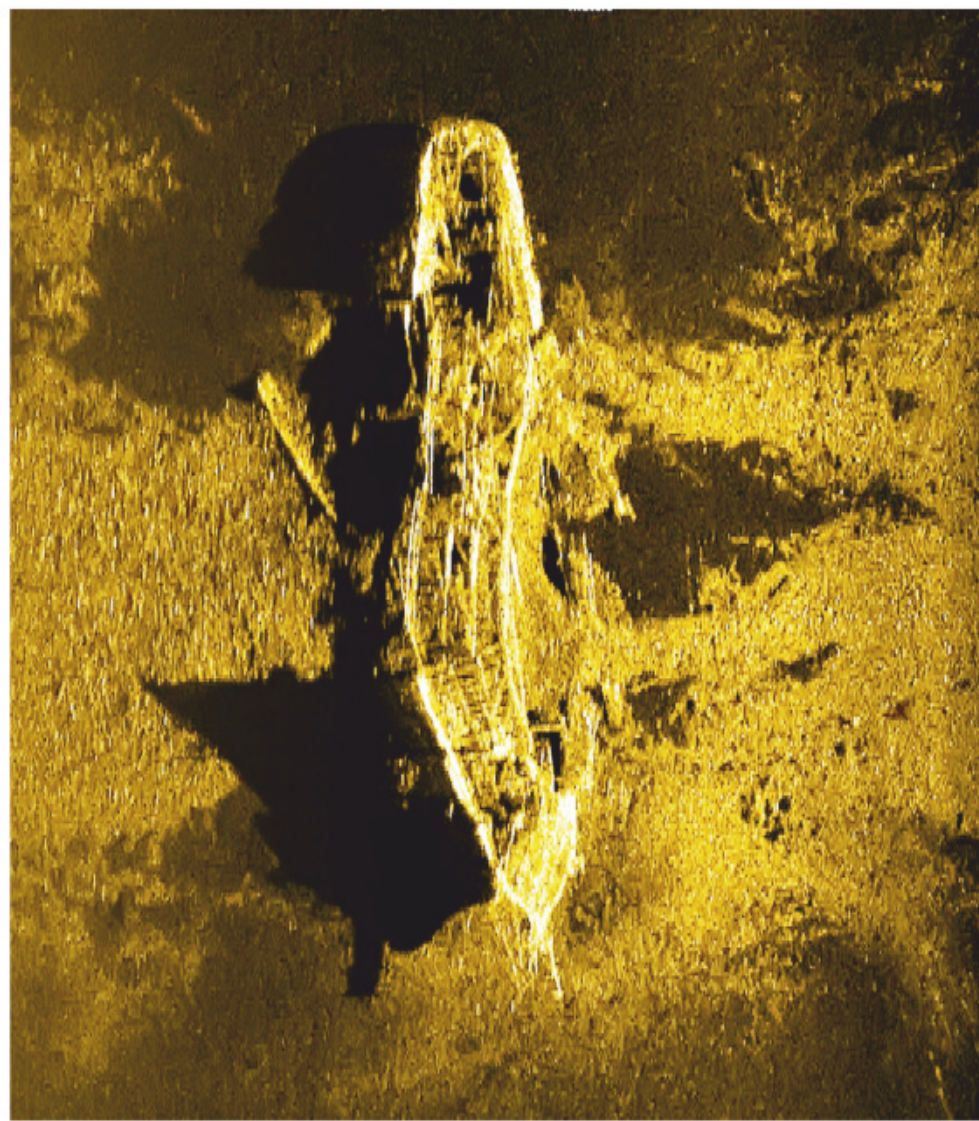
Shipwrecks and Rafts

When a ship has the great misfortune of sinking, its crew and passengers usually rescue themselves by launching the lifeboats that are on board. There have been circumstances, however, when a life raft became the lifesaving venue.

Take the example of the SS *Elingamite*, an 1887, British-built, steel steamship that sank after striking a rocky shoreline in dense fog while enroute from Australia to New Zealand on November 9, 1902. Most of the 136 passengers and 58 crew took to the lifeboats, but 16 people found themselves on a raft that subsequently floated free of the doomed vessel. The raft reportedly drifted 66 miles [106 kilometres] over the course of the next four days before the steamer, HMS *Penguin*, went to their rescue near Great King Island, north of New Zealand's North Island. They had no water and only two apples with them on the raft, and by the time of rescue, three of the 16 had gone mad and jumped overboard, while another five had died, including the stewardess, the only woman on board the *Elingamite*.



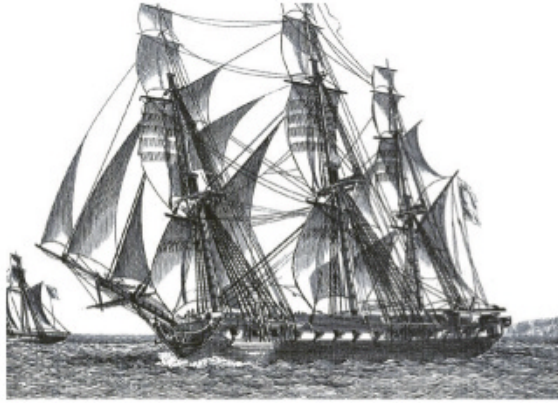
The iron-hulled barque, *Kooringa*, lost in the Indian Ocean in 1894, closely resembled the *West Ridge*. (State Library of South Australia)



This sonar image of the shipwreck that is likely the *West Ridge* presents a clear outline of the vessel lying in very deep water in the Indian Ocean. (Australian Transport Safety Bureau)

The survivors stated that sharks circled their raft most of the time, and that they devoured the bodies of the deceased as they were dropped overboard.

Probably the most famous raft in the history of shipwrecks is the raft of the *Medusa*. The *Medusa*, a 154-foot-[47-metre]-long French frigate (*Méduse* in French), launched in the summer of 1810, ran aground, due to an incompetent captain, on a reef about 31 miles [50 kilometres] off the coast of Senegal on Africa's west coast on July 2, 1816. There were, however, not enough lifeboats to carry the 400 people (160 crew and 240 passengers) to safety. Enterprising passengers used wood from the wrecked ship to build a huge raft, 66 by 23 feet [20 by 7 metres]. The plan was for the lifeboats, which were being rowed, to tow the raft to the African shore. But progress was too slow, so the raft was cut loose, the 146 men and one woman on board being left to fend for themselves. Their food, which consisted of one box of biscuits, ran out the first day. Two casks of water were lost overboard, and the remaining six barrels proved to contain wine rather than water. Fighting broke out and people were killed. Some committed suicide. Survivors resorted to cannibalism. After 12 days adrift, the brig, *Argus*, rescued the survivors, who numbered only 15 (and five of those died in Senegal within a few days of being rescued.) Seventeen men had stayed with the wreck of the *Medusa*, and only three were left alive when rescue came 54 days later. The *Medusa* incident became an embarrassing scandal in French politics. In 1818, artist Theodore Gericault painted a much-larger-than-life masterpiece called "The Raft of the *Medusa*," an iconic work of the French Romantic movement now on display in the Louvre in Paris. In 1980,



Half of the people who made it onto the life raft when the SS *Elingamite* sank in late 1902 off New Zealand perished before they could be rescued. (Kohl-Forsberg Archives)

The sinking off the French ship named the *Medusa* on a reef a fair distance off the west coast of Africa in 1816 caused considerable human carnage and suffering, as well as scandal back in France. (Kohl-Forsberg Archives)



Two years after the sinking of the *Medusa*, a young French painter named Théodore Géricault created an enormous rendition of the desperate and suffering survivors on the raft. Today that painting is displayed at the Louvre in Paris. (Photo by Cris Kohl)

a French marine archaeological expedition, working with an 1817 report that the wreck was still visible above the water, located the wreck of the *Medusa* on their first day of searching. Artifacts that helped identify the wreck are now on display in the Marine Museum in Paris.

Incidentally, the ship named the *Medusa* was named after a hideous character in Greek mythology, a daughter of sea gods supposedly turned into a monster with snakes for hair, by the goddess Athena because of an illicit love affair with Poseidon, the most powerful god of the sea. Despite the sea connections, “Medusa” is not a flattering name for a ship.

For a more recent, yet quite dramatic, raft story, read about the wreck of the *Manasoo* in this issue of *Wreck Diving Magazine*.

Great Lakes Shipwreck Finally Identified

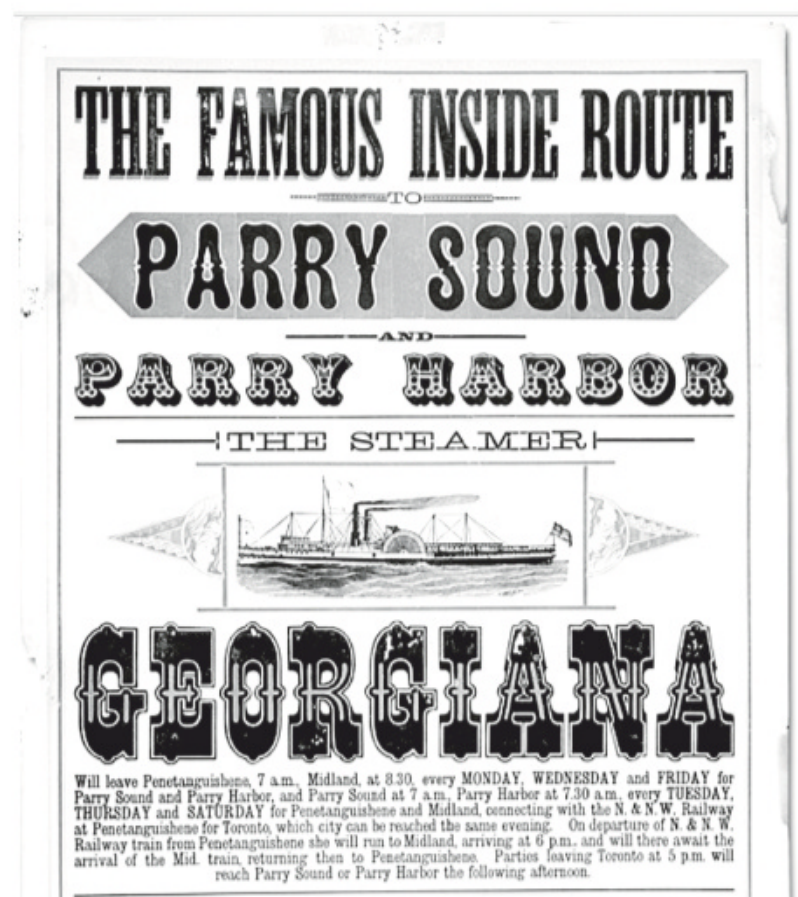
The shipwreck that has been known for decades only as “the Blackmore Island wreck” in Lake Huron’s Georgian Bay has been identified. In August 2018, I received the following email: “Hi. My name is Tom Luton. I’m a member of the family that owned the south half of Blackmore Island until fairly recently. When my grandparents bought the island in the early 1970s from the Cox family, we were told that the name of the nearby shipwreck was *Georgiana*...”

Joan and I searched our own files, and the only report that gave a location for the *Georgiana* vaguely suggested that it was abandoned “near Copperhead Island,” which is south-south-west of Blackmore Island. From Tom’s later description of the wreck, which lies in a maximum of 20 feet [6 metres] of water off Blackmore Island, I concluded that he was definitely talking about the *Georgiana*.

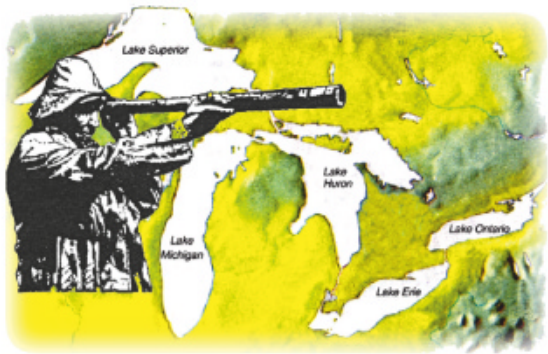
The *Georgiana* started life in 1850 at Port Dover on Lake Erie as a 92-foot-[28-metre]-long sidewheel steamer named the *Dover*. The ship was twice wrecked, recovered, repaired,

and returned to service, being renamed the *Georgiana* after its second repair. Under its new name, it cruised the “inside route” between the towns of Penetanguishene and Parry Sound, stopping at a few places along the way, making that round trip three times a week, and offering its passengers “an all daylight trip, a short and safe passage thoroughly secure from all danger of tempest, or the even worse bane of sea sickness” on a route “which will enable them to see the grandest and most fairy-like scenery in the world coupled with a sense of security.” The *Georgiana* conveyed passengers and freight along that route for ten years (1872-1882). However, in 1882, its steam engine, boiler, and the rest of its propulsion system were removed from the aging ship, and it was converted into a tow barge, presumably working in the area’s lumber trade. That is how it ended its many years before being abandoned in 1895 off Blackmore Island.

We thank Tom Luton for finally putting a name onto that unidentified shipwreck. Lesson learned: Never underestimate the importance of local knowledge.



For decades in recent times, the *Georgiana* was an unidentified shipwreck in Lake Huron’s Georgian Bay, known only by its nickname, the “Blackmore Island Wreck.” (Kohl-Forsberg Archives)

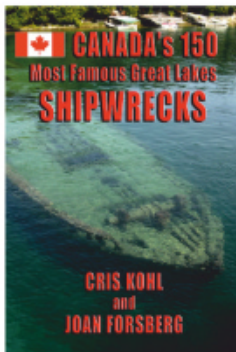


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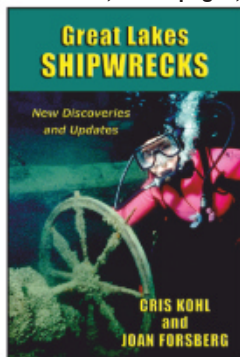


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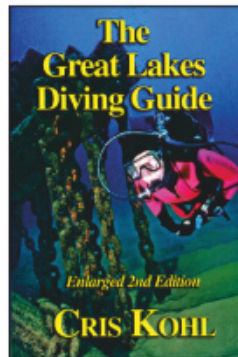
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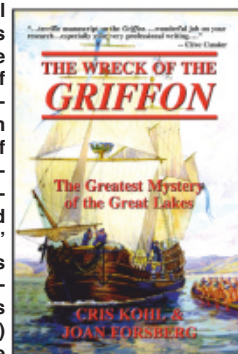
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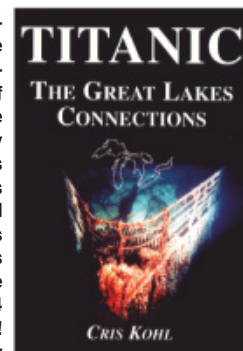


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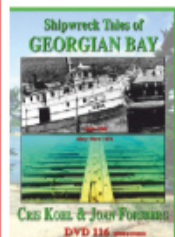


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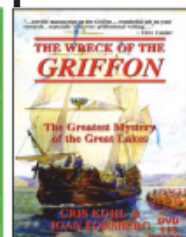
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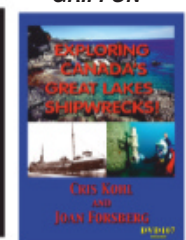
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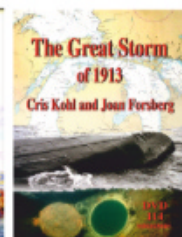
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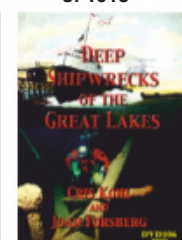
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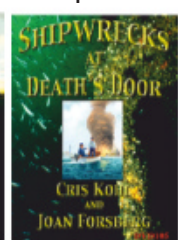
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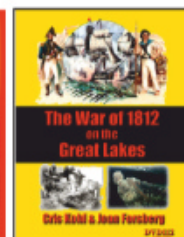
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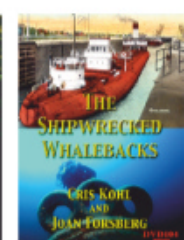
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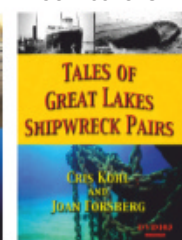
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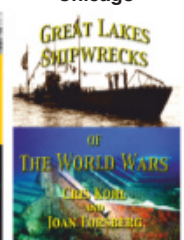
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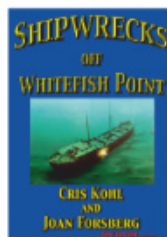
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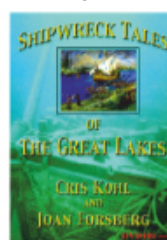
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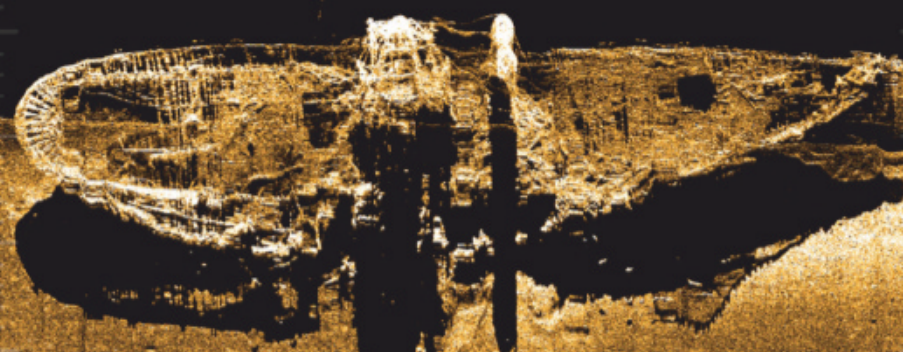
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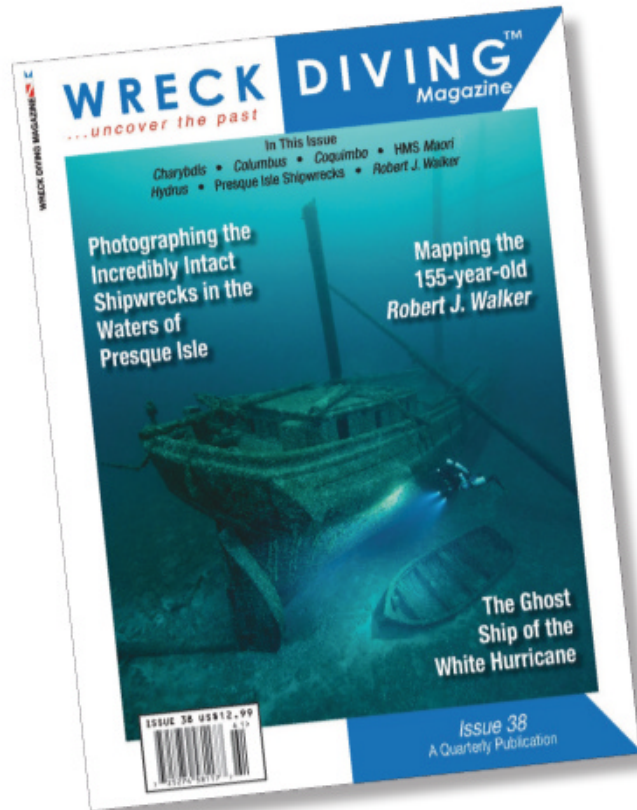
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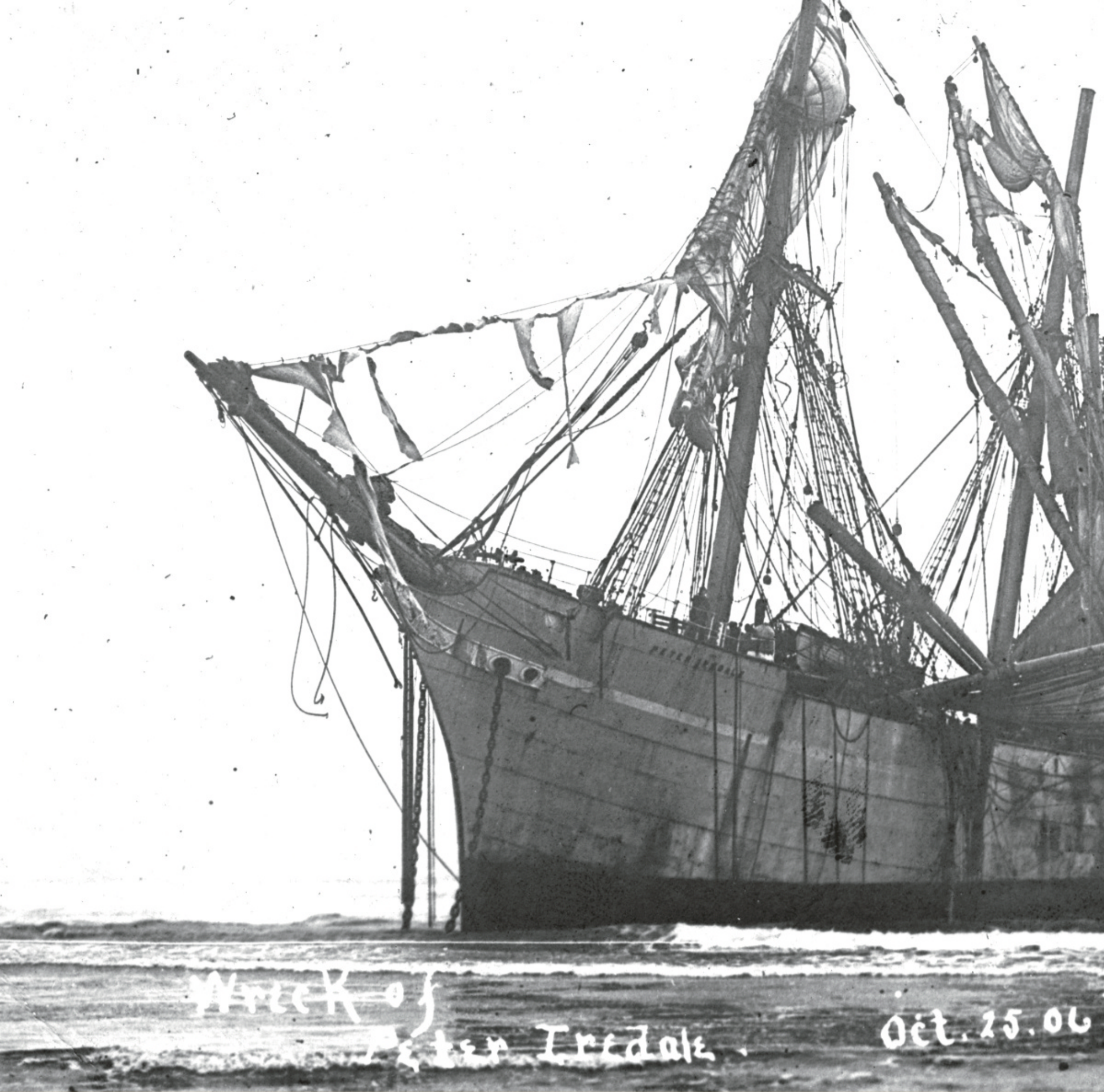
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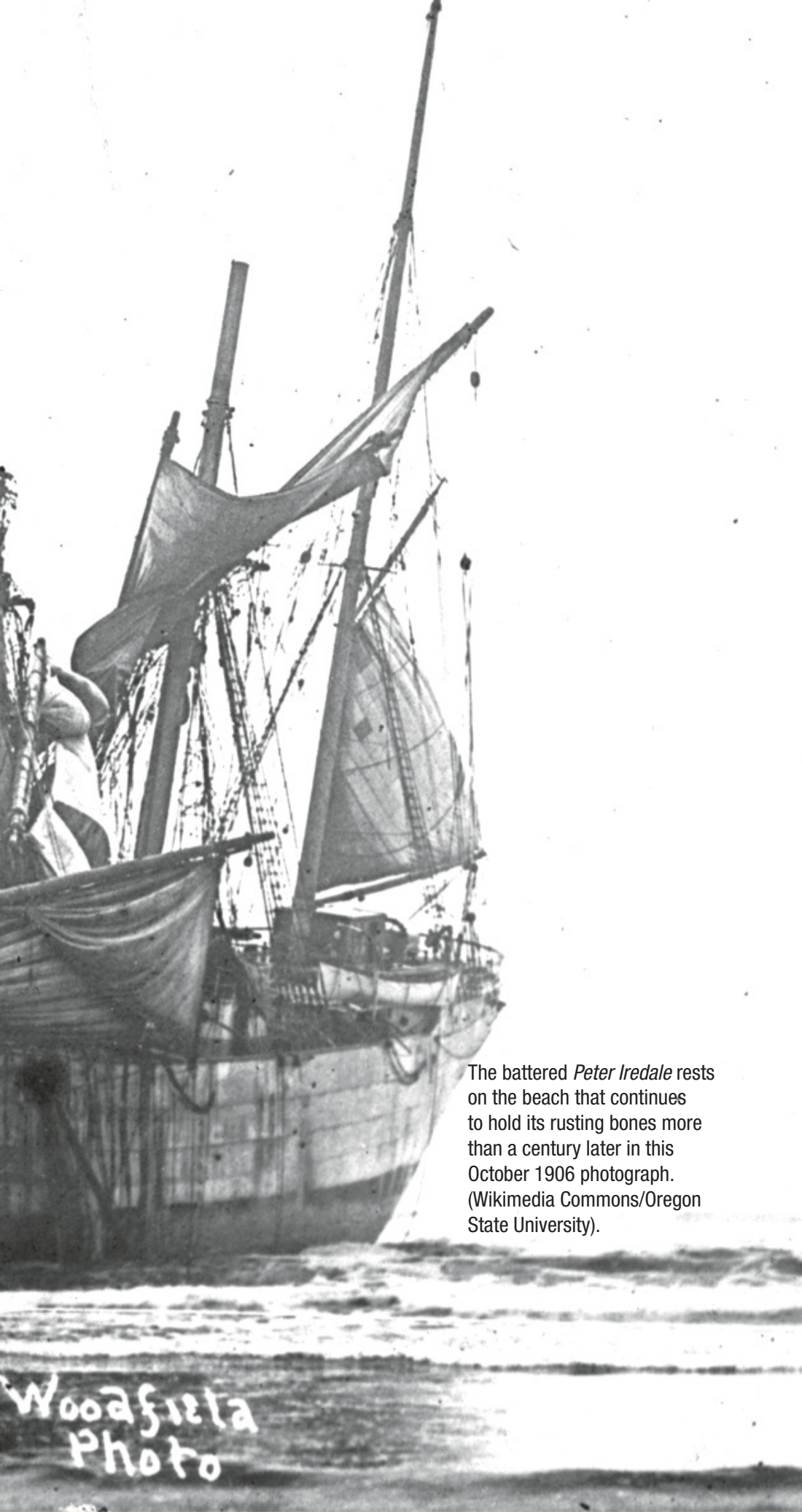
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SKELETONS IN THE SAND

Text by James P. Delgado



The battered *Peter Iredale* rests on the beach that continues to hold its rusting bones more than a century later in this October 1906 photograph. (Wikimedia Commons/Oregon State University).



The wreck of *Peter Iredale* at low tide, 2014. Easily accessible except at high tides, *Peter Iredale* has been a popular attraction on the beach at Fort Stevens for over a century. (Wikimedia Commons, MB298)

The thrill of shipwreck discovery is often found beneath the water. The excitement of discovery, whether you are the first diver or the most recent, comes as you drop down in the ocean or at the bottom of a lake or river. That being said, diving, especially for wreck divers, comes with the expectation that at some time, you will find a wreck down there. Ships sink, after all. What most people do not expect, especially the non-diving public, is that beachcombing also leads to shipwreck discovery.

If you stop to think about it, it's almost natural that you'd find a wreck on the beach. Tales of shipwrecks include numerous accounts of ships crashing ashore, driven by a gale, or driven into the rocks or sand by crews who lost their way. Nineteenth-century prose was well-suited to tell these tales. An English compendium, *Great Shipwrecks: A Record of Perils and Disasters at Sea, 1544 to 1877*, offers many examples. The wreck of the British ship *Amphitrite* on the French coast of the English Channel in August 1833 is described as the ship hits the shoals and strands off shore.

As night falls, it is clear that rescue is not possible; "the darkness increases, the winds increase in fury, the waves increase in force and violence; we can scarcely distinguish the boat. The billows compel the most intrepid to fall back. All at once a mast is cast at the foot of the spectators; then casks, then fragments of wreck, then dead bodies."

As the crowds left, some of them picking up a souvenir, the "fragments of wreck" disappeared with each rise and fall of the tide, leaving clean sand and fading memories as years turned into decades and centuries. Even iron and steel ships, also cast ashore, seemingly disappeared, battered into pieces and sinking into the sand. They did not. Lying in that intertidal zone, in a zone usually covered by waves, much of a ship simply sinks into the sand. Everything torn free, from masts, deck houses, decks, pieces of the upper hull, items stored inside, and bodies, are cast by the wind-driven waves high up on the shore. To observers watching above the water's reach, the ship, looking as if it has been torn into bits, has disappeared, leaving only flotsam and jetsam strewn on the sand as the storm ends and the waves recede.

"Disappearing" does not mean lost forever. Some ships, bedded into the sand in the intertidal zone, show their bones with more extreme lower tides. While some ships cast onto a beach may break up and be buried, they reappear from time to time as storm-driven waves erode the beach, revealing not only skeletons in the sand. In some cases, much of a ship which held together and did not fragment, sinks deeper into a beach suddenly made less dense as whirling water and storm-waves churn the sand.

This "quicksand"-like phenomenon is not that different from the effect of standing in the surf and having your feet slowly sink deeper as the waves wash around your lower legs. If a ship strands on a beach and is heavy enough, and solidly built, it will settle in,

sinking deeper even as the waves begin to break it apart. The bottom of a hull, sometimes more, and occasionally even up to the level of a deck can be swallowed. Even if a ship, especially a wooden vessel, breaks up in the surf, the heavier, large pieces, surrounded by quick-moving water and a beach with its sand in motion, will also disappear below the surface of a beach's intertidal zone.

My career as an archaeologist who studies ships came not from diving but from the discovery of buried ships. The first was a vessel hauled ashore onto a mudflat and turned into a building in housing and warehouse-starved San Francisco during the Gold Rush year of 1849. Burned to the waterline and buried as landfill swallowed ten blocks of a shallow bay, that ship reemerged in May 1978 during high-rise construction. That discovery mesmerized me. I shifted from prehistoric to maritime archaeology with it and a similar discovery beneath the streets of San Francisco a year later. The next two projects came as heavy winter storms in December 1982 stripped more than ten feet of sand on the city's Ocean Beach. At the base of a sandstone cliff, nearly half of one side of a wooden wreck appeared.

For the next few days, at each low tide, I measured, photographed, and studied the massive, nearly fifty-foot-long fragment of hull. Its curving form of thick frames and planks bolted together with iron had been wedged against the cliff and buried by sand that piled up from the surf and sand and rock that had fallen from the cliff above. If not for the heavy storm that stripped the beach, it would have remained buried.

Sleuthing in the newspapers and studying the remains led us to determine that we were looking at the remains of the two-masted schooner *Neptune*, which went ashore at that spot in August 1902. An account of the wreck in the San Francisco Examiner noted that "she is embedded in the quicksand," and "it is the opinion of nautical men that she will remain where she is until a storm breaks her up and scatters her bones along the beach." That's exactly what we found eighty years later. Seeing that scattered bones could survive on the often storm and wave-lashed, open coastline of the Pacific, I started researching the topic and found numerous examples of other wrecks that appeared, from time to time, above the sands.

They included the Revolutionary War wreck of HMS *Somerset*, which went ashore at Cape Cod during a gale in November 1778, and an even earlier wreck, the Dutch ship *Amsterdam*, which blew ashore in a storm in January 1749. Solidly built, and heavily loaded with cargo, the ship slowly sank, at a rate of about half a foot per day, until it stopped at the level of the main deck, more than 26 feet down into the sand. An account of the time noted that "she lyes on shore, on boggy sand." It has remained there ever since, its outline exposed at extreme low tides. Two-thirds of the hull, with the cargo inside, lies buried like a time capsule with the lower decks still intact. The wreck has been studied, but without a major excavation. If that takes place, the artifacts preserved in the ship will speak to the role of this type of ship, operated by English and Dutch traders, that opened trade with the Indies – today's Indonesia – and

changed the world. The baggage sealed inside will speak powerfully through personal belongings about the people on board.

On the East Coast, at Cape Hatteras, the two-masted schooner *Altoona*, lost in October 1878 off the cape, surfaced in the surf after storms stripped the sand in March 1963 to reveal the intact decks, with the windlass still mounted and the stumps of the masts. As the surf gradually dug out the wreck, *Altoona* refloated enough to begin to break apart, but not before beachcombers were able to scoop out enough sand to reveal tools, brooms, and a bucket of tar still stored in the bosun's locker in the bow.

I had no idea as I researched these two wrecks that I was about to be introduced to another beached shipwreck that was more than a frag-

ment. The winter storms of 1982 also exposed the tip of a ship's buried bow on Ocean Beach, north of where we were



In this contemporary lithograph, men ashore try to throw ropes to rescue the crew from the "The Dreadful Wreck" of the immigrant bark, *Mexico*. One hundred and fifteen people, most of them Irish immigrants, died in the wreck as it stranded on the shores of Long Island on January 2, 1837. (Wikimedia Commons/Metropolitan Museum of Art)



This image, released by the U.S. Navy in March 2006, shows archaeologists excavating the remains of a wooden wreck exposed on the shores of Naval Air Station Pensacola during construction of a new building on the shoreline. An earlier building on the site had been demolished by Hurricane Ivan; the wreck buried beneath it demonstrated the power of earlier storms to throw wooden ships high up onto the beach and then bury them. (U.S. Navy/Gary Nichols)

working on *Neptune*. It only stuck a few inches out of the sand as the tide dropped. But more storms in March 1983 washed away more sand, revealing that the stern lay 186 feet away. While the stretch of hull in between was not visible, probing hit it just a few feet below the beach surface. The sand soon returned, burying the ship, which by then we had figured out was the medium clipper *King Philip*, a vessel built in 1856 that went ashore in 1878.

Storms in March and April 1984 stripped even more sand away, and the outline of much of the hull came into view. The outer hull was still sheathed with sheets of Muntz metal, a mid-to-late-nineteenth-century protection against marine borers and fouling. The fittings for the rudder were also in place. Based on historical records, we knew that unlike *Amsterdam*, *King Philip* held no cargo, just rock ballast to keep the hull stable as it headed north on a voyage to Puget Sound to load lumber. But the wreck did yield a surprise.

The storm-driven waves exposed wire rope and parts of a ship's rigging tangled in the bones of *King Philip*. There were also chunks of another hull – not the oak used to build *King Philip*, but West Coast Douglas Fir. A little more sleuthing solved the mystery. In March 1902, the three-masted schooner *Reporter*, of Port Ludlow, Washington, went ashore at the same spot. The San Francisco Examiner reported that there was no hope; “the schooner can only fight until her tendons give. Her ribs and sheathing, masts and rails will wash ashore.” They certainly knew how to spin a dramatic tale in 1902. Within a few days, the paper



The wreck of the bark, *W.F. Marshall*, lies on its keel, heeled to starboard on the beach at Mioxes on Nantucket Island in March 1877. Sometimes ships caught in this condition could be pulled off a beach and salvaged to sail again, but many times, new storms broke them up as the wave-washed sand swallowed the lower hull. (Wikimedia Commons/New York Public Library)



The skeleton of an unknown wooden wreck emerged from the sands of the beach at Morbihan (Brittany, France) in December 2007 (Wikimedia Commons/Jebulon)



The outline of the 1878 wreck of *King Philip* on San Francisco's Ocean Beach, as it was exposed by beach erosion in 2011. The curve of the stern, and beyond it the bow have been revealed as the sand was stripped away by storms. (Wikimedia Commons/Brocken Inaglor)

provided the clue we were looking for, again in the prose of the times. *Reporter* was “fast digging her own grave alongside the bones of *King Philip*, whose ribs are still seen.”

The survival of the two wrecks was compelling. Despite open water forays off the California coast, I had yet to dive on a shipwreck other than to don gear and plunge into the maelstrom of surf and sand at high tide to examine the tide-scoured outer hull of *King Philip*. I look back 34 years and still have a strong sense of what it must be like to ride the inside of a Maytag clothes washer. Other beached wreck adventures followed, even as I quickly moved into diving on wrecks at deeper depths than tidal surges. In 1984, we mapped winter storm-exposed, scattered wooden wreckage from the 1913 wreck of the steamer *Pomo*, driven ashore at Drakes Bay. The pieces of the wreck – its original point of impact still marked by its triple expansion steam engine, which occasionally peeked out from the sand just off shore – spread out over three miles of beach.

A survey in 1985 of hurricane-exposed shipwrecks at Cape Hatteras, and 1986 work at Cape Cod were proof that not all wrecks that come ashore are ground into matchsticks. Shifting sand during our work at Cape Cod revealed the complete hull of the iron bark *Frances*, which went ashore in a gale in December 1872. The wooden deck at the bow enclosed the forecastle. As waves rolled over it, we penetrated the compartment to find collapsed sailors' bunks, and a seaman's chest, empty of all except a single, very angry lobster we disturbed.

While my work as a shipwreck archaeologist moved into progressively deeper waters in the 1990s and through the first two decades of this century, I have never lost my interest in, nor my enthusiasm for the beached shipwreck. What better way to explore a wreck for the non-diving public? The mystery is there, as well as the ability to be a detective. And for non-divers – and even beach drivers – the wrecks are accessible. When you encounter an

iconic shipwreck on a beach, like the famous *Peter Iredale*, you have access to wrecks that are landmarks in their own right, and the setting for family photographs that stretch back generations.

The four-masted, steel bark *Peter Iredale*, built in 1890, was still a relatively young ship when it went ashore in October 1906. High winds and heavy seas drove it ashore eight miles south of the entrance of the Columbia River instead of making its intended stop at Portland, Oregon. Stuck in the sand, *Iredale* could not be pulled free; the captain is said to have left saying, “May God bless you, and may your bones bleach in the sands.” While pounding seas, rust, and souvenir-hunting took some of it, the stranded hulk, now part of Fort Stevens State Park, has been the setting of countless family photographs, picnics, and the explorations of generations of curious children.

Wrecks on the beach have continued to make the news for decades, especially after a hurricane, nor'easter, or a strong winter storm clears away sand to reveal to a new generation a wreck not seen for many decades or never before. As I've followed these accounts, what has become clear is that more finds are being made as the frequency of storms increases and gradual, sea-level rise gives the sea a foothold where in the past it reached only with maximum tides and waves whipped by high winds. In the last year, ocean-stripped wrecks like the Civil War blockade runner *Ivanhoe*, lost while trying to enter Mobile Bay, were revealed by winter storms. The iron-hulled *Ivanhoe* ran aground while being chased by a Union steamer in June 1864. The stranded hulk, high and dry, was shelled, burned, and stripped before being left to sink into the beach. Rediscovered by Clive Cussler's NUMA in 1989 under the dunes, buried by 12 to 18 feet of sand, *Ivanhoe*'s sleek hull, still intact, reappeared after storms in November 2018. It is now fifty yards off shore, exposed by erosion as the rising sea has eaten into the beach.

Just weeks earlier, in October, two wooden wrecks, both known to have stranded on Florida's Panhandle in 1899, reappeared as Hurricane Michael stripped the beaches of Dog Island. Driven ashore as Hurricane Carrabelle struck the coast, the story of the ships had never been lost, and from time to time, portions had become exposed. The October 2018 hurricane, the most powerful to strike the area since 1899, likely duplicated the conditions that wrecked and buried the ships, resulting in their popping free of their sandy graves – for a while.

In December, two different media stories reported other finds. Off the White Lake Channel near Muskegon, on Lake Michigan, winter storms on the lakes removed enough sand to reveal the bones of a wreck at first thought to be the schooner *L.C. Woodruff*, which stranded near there and “broke apart” in 1878. Two weeks later, Christmas storms stripped the sands of Stone Harbor, New Jersey, revealing a 25-foot chunk of a wooden wreck that one historian speculated might be from the schooner *D.H. Ingraham*, which wrecked there in 1886.

Whether the mystery of what a wreck on a beach might be, especially to determine its name, is a desire that burns deep in the heart of most who love shipwrecks. But the quest of finding a name, even as fans of *CSI* know, may never be achieved. Just the same, dead ships do tell tales. In March 2018, during the height of Spring Break, a chunk of shipwreck was found, tossed up by the sea on the sands of Ponte Vedre, just north of St. Augustine, Florida. I was fortunate to be asked to join for a day as a dedicated team of archaeologists and volunteers from the Lighthouse Archaeological Maritime Program (LAMP) worked to save it from rising tides and waves that were breaking it up, while also documenting it to learn more. They also spent time talking with thousands of visitors who had parked along the local highway and hiked down to the beach to see the wreck. The wreck, long after the drama of its loss, created a traffic jam. It also made national news.

While it was a small section of a hull, with wooden frames and planks – not unlike *Neptune* on that San Francisco beach nearly 40 years ago, it fascinated and drew the crowds because it was a shipwreck, and it was mysterious. It was rescued, and remains on display for the curious, but it also yielded information that spoke, if not to its name, then to where and when it was built. We noticed Roman numerals carved into the wooden frames. They told us this section of ribs and side had come from near the bow, and likely on the starboard side. Work by archaeologists Chuck Meide and Brendan Burke have learned that it was built of different woods, quickly, and was not exactly a well-built vessel. Their work suggests the wreck, perhaps a coastal schooner, had been built late in the 19th century, farther up the coast and perhaps in the Carolinas. Skeletons in the sand are more than just a piece of ship.

Built quickly and cheaply, it was likely not intended for a long life, but as a necessary tool for someone trying to make a living in coast-hauling of freight, or perhaps fishing. It likely did not belong to a company, but may have been family, or individually owned by its captain. The wreck was nearly new when it was lost, and had never



Continued erosion from storm waves exposed more of *King Philip's* stern and some of the buried starboard side of the hull in May 2011. (Wikimedia Commons/Brocken Inaglor)



The picturesque remains of a wooden wreck are exposed at low tide at Burnham-On-Sea, Barrow, on the shores of the Bristol Channel in 2008. The keelson and some of the frames that formed the hull are visible. (Wikimedia Commons/IDS Photographs).

surfaced before because it had been buried deep in sand and farther off shore. The changing sea level, and the number of storms that swept the Florida coast in early 2018 had dislodged it from its grave and cast it ashore. As I looked at it, I was struck by the reality of most wrecks. While we focus on the famous and the iconic, the reality of life, and of shipwrecks in this instance, is demonstrated by a find like this.

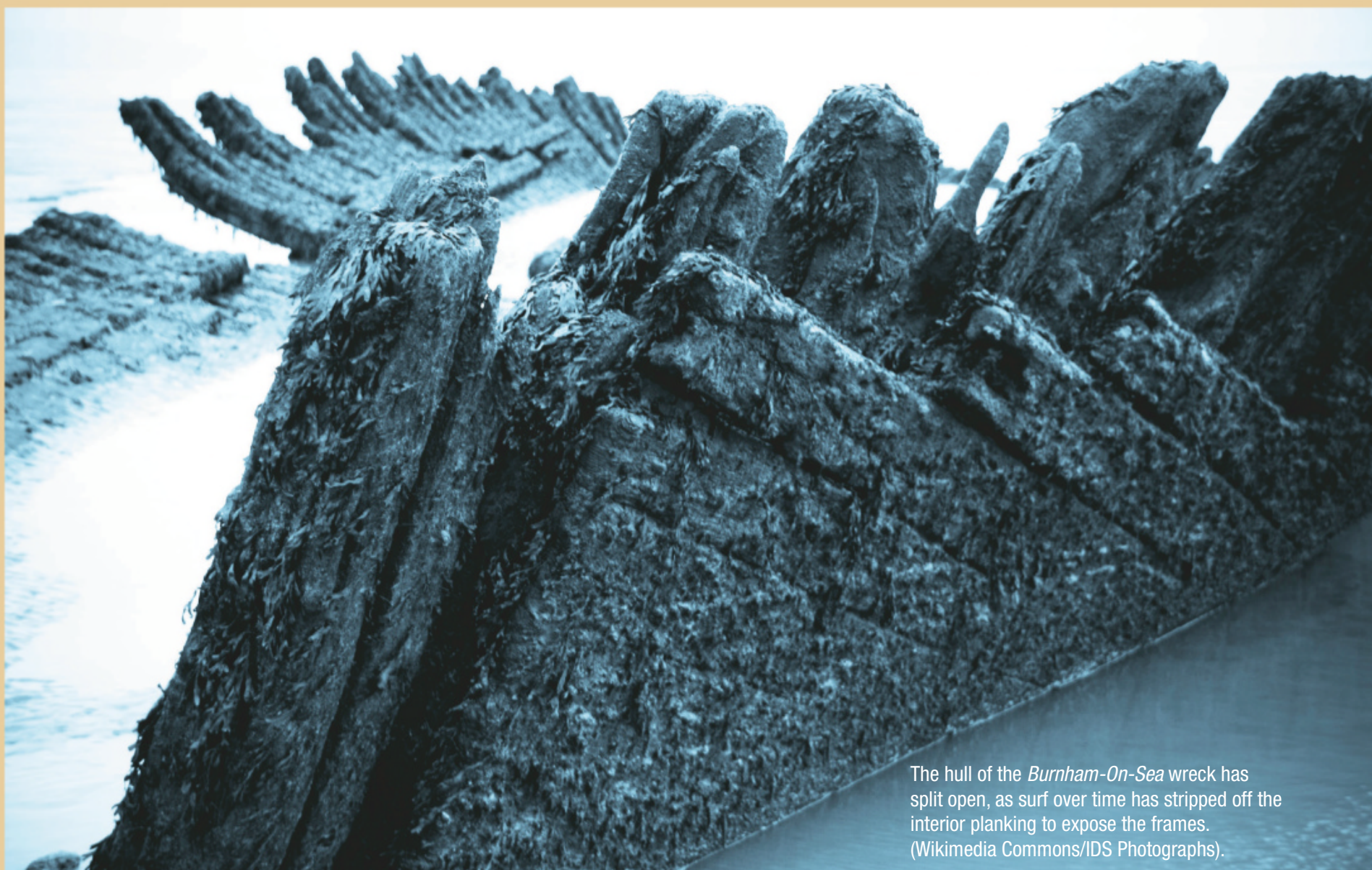
The most powerful message of this skeleton in the sand, just like the bones of the small two-masted schooner *Neptune*, my first wreck, is simply this. History is more the story of people who get up and have to go to work, make a living as best they can, and try to do better for themselves and their families. These two workaday schooners, lost around the same time, separated by a continent and four decades of my career in shipwrecks, remind me that meaningful history and archaeology is made up of things such as this.

About the Author: James Delgado first visited Bikini with the National Park Service in 1989-1990 for the first detailed dives on the wrecks in the lagoon as well as *Prinz Eugen* at Kwajalein. Jim returned to Bikini in 1999 and was one of the hosts for Al Giddings' Shark Week special, which Discovery broadcast live from Bikini. Jim was the primary author of the NPS report on the wrecks, as well as two other books, *Ghost Fleet: The Sunken Ships of Bikini and Kwajalein Atolls* (1996) and *Nuclear Dawn* (2009). Most recently, Jim was chief scientist for the E/V *Nautilus* deep sea dives to the wreck of USS *Independence* in 2016. In addition to his work on the atomic fleet, he has dived on and worked on more than a hundred wrecks around the world and is the author of more than 30 books.



The schooner *Ada K. Damon* went ashore at Ipswich, Massachusetts, on December 26, 1909, after the anchor chain broke. The five crew survived, but the schooner, broken, sank into the sand. Over the last century, it has periodically reappeared when storms strip away the beach.

(Wikimedia Commons/Dbateser).



The hull of the *Burnham-On-Sea* wreck has split open, as surf over time has stripped off the interior planking to expose the frames.

(Wikimedia Commons/IDS Photographs).

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Shedding Light on a Dark Sinking – the *MANASOO*!

A tragic foundering,
a perilous survival, a
dramatic angle, and
a 1927 automobile
spawn an amazing
shipwreck!

Text by *Cris Kohl*

Underwater Photographs by
Terry Irvine



Coincidentally, this First Day Cover, commemorating the release of a new "Forever" stamp in the USA and depicting the steamer *Manasoo*, was released only about 140 days before the *Manasoo* was actually found. (Kohl-Forsberg Archives)



Steamer "Macassa," Hamilton to Toronto

The *Manasoo*, built in Scotland in 1888 as the *Macassa*, spent most of its 40-year-long career servicing the cities of Toronto and Hamilton on Lake Ontario. (Kohl-Forsberg Archives)

In the summer of 2017, a well-equipped dive boat with three determined divers on board searched patiently for a shipwreck in Lake Huron's lower Georgian Bay, running parallel tracks over the water with approximately 1000 feet (300 metres) of distance between each set of lines, lines that were several miles long. Ken Merryman and Jerry Eliason, both from Minnesota, working with Michigan police diver Jared Daniel, covered many square miles of deep water, finding interesting geological formations at depths of 300 to 400 feet (90 to 120 metres), features such as underwater cliffs suddenly dropping 80 feet (24 metres), and other unusual formations, the nature of which could not be determined. Yet they were clearly not shipwrecks.

Ken is a highly trained technical diver who, for decades, operated his boat for week-long diving charters at Lake Superior's Isle Royale, a challenging place that has been called "the 'mecca' of Great Lakes shipwreck diving." His steady hands and calm disposition are perfect for driving his boat in straight lines on a pre-determined course in quest of shipwrecks, as well as for shooting some of the steadiest underwater video ever produced in the inland seas. His longtime wreck-hunting partner, Jerry, is an electronics wizard who has built his own side scan sonar system, complete with a tow fish he designed and constructed for deep water (greater than 500 feet, or 150 metres) use, plus an equally impressive drop-camera underwater video system that can be lowered hundreds of feet and can relay high quality video to the monitor on board Ken's boat. Jared, while young, gained experience locating shipwrecks by previously being part of well-known wreck hunter Dave Trotter's team. These three men have had a presence in previous issues of *Wreck Diving Magazine*, specifically issues #31, 32, 38, 40, 43, and 44.

Yet, after two days of searching, utilizing all of this experience and high-end electronics, they could not find the wreck of the *Manasoo*, the ex-*Macassa*.

* * * * *

Built in Scotland and launched in 1888 for the Hamilton Steamboat Company of Ontario, the *Macassa* crossed the Atlantic Ocean to begin her long career on the Great Lakes. Because the *Macassa*'s hull was steel, while the other excursion ships in that area were wood, she could get underway earlier in the year and run later at the end of the season, and, if any ice remained or had formed on the lake, her hull could handle it. Wooden ships had concerns about ice puncturing them. The years passed, and new captains of the *Macassa* came and went, but the ship maintained its reputation for being the first one "out" nearly every spring.

When the Great War ended in late 1918, life changed radically. The restoration of peace brought with it a general prosperity never before seen in North American society, including extreme changes in leisure and entertainment, with the most dramatic alterations being created by the automobile. Cars were made increasingly affordable, giving owners the freedom to go where they wanted, when they wanted, giving added drive to what has been called "The Roaring '20s." Day-long steamer excursions had become passé – driving around the countryside in an

automobile was much more exciting!

For 39 years, since 1888, the *Macassa* carried fun-lovers and cargoes between Toronto and Hamilton, with occasional side trips across the lake to Niagara, but excursion traffic had slowed down noticeably. The *Macassa* toured its final group of excursionists around Toronto harbor on September 30, 1927. The vessel was then sold to another company that took it to a very different lake for its 40th -- and final -- year.

* * * * *

Ken Merryman invited me to join him and Jerry Eliason in searching for two shipwrecks in lower Lake Huron in the summer of 2018. In late June, we began by continuing the unsuccessful and aborted 2017 search for the *Manasoo*, the vessel that had been previously named the *Macassa*. We stocked Ken's boat, *Hey Boy*, at Wiarton, Ontario, with enough food and fuel for several days on the water, and we headed out into Georgian Bay on Wednesday, June 27, 2018.

In 2017, Ken's team had covered many square miles of water by "mowing the lawn" (towing the sonar tow fish) up and down long, parallel vertical lines running north and south – with no luck. We now ran parallel horizontal lines running east to west, each several miles long, covering the same water area, but from a different angle of approach, in the belief that the wreck might have escaped electronic detection due to a bad angle.

For three days, our feet never touched land as we slowly plowed this vast, open field of water at slow speeds, simultaneously bored by the long hours in a day without seeing anything that we viewed on the sonar screen that resembled a shipwreck, yet awed by very odd geological formations in depths again ranging from 280 to over 400 feet (84 to 120 metres) of water. The sonar screen, marking our boat's trail, became heavily crisscrossed in a checkerboard pattern as we searched from dawn until dusk and even into the darkness of night before cranking in the electronic tow fish and finding a wilderness cove that was weather-protected, where we could anchor and sleep for the night.

We searched extensively on June 27, 28, and 29, but we could not find the wreck of the *Manasoo*, the ex-*Macassa*.

* * * * *

With much excursion and freight business by the mid-1920s utilizing roadway transportation, thereby idling ships that had done that work previously, the *Macassa* was purchased by an eager, young company operating on Georgian Bay, the Owen Sound Transportation Company.

But at the end of the 1927 season, on October 10, the company's first steamship, the *Michipicoten*, burned to a total loss at Silver Bay, near Gore Bay, on Manitoulin Island, fortunately with no lives lost. Immediately the company looked for a replacement vessel – and the *Macassa* on Lake Ontario caught their attention.

After a quick purchase, the Owen Sound Transportation Company spent money during the winter of 1927-1928 in Toronto modifying the vessel by adding overnight accommodations for 70 people in 34 staterooms, plus a

dining room. Over a three-week period beginning in late March 1928, the *Macassa* underwent detailed inspections in numerous categories, including everything from each porthole and lifeboat to the thickness of steel in her hull, before being granted a certificate of seaworthiness. At this point, the company changed the name of the ship to *Manasoo*, which combined parts of “Manitoulin Island” and “Sault Ste. Marie,” or “the Soo,” to indicate the ship’s chief, upcoming harbor stops.

Having ignored the longstanding sailors’ superstition that changing a ship’s name will bring it bad luck, the company took the *Manasoo* off its regular schedule and, reportedly, for its final trip of the year before winter lay-up, was converted into a special vessel for moving livestock, with cattle pens set up on the main deck. A dozen cattle were loaded at West Bay, on the north shore of Manitoulin Island, by 11:30 a.m. on Friday, September 14, 1928, with another 104 head being herded on board at Manitowaning, on the island’s east shore, that afternoon.

The 116 head of cattle were placed in their pens with balance and control of the *Manasoo*’s buoyancy carefully considered: 47 of the heavier cattle were stowed aft in two 40-foot-by-10-foot [12-metre-by-3-metre] pens on the main deck, and another 69 head were corralled forward in another pair of pens the same size as the two aft ones. With each head of cattle weighing an average of 950 pounds, this live cargo weighed several times more than the maximum 76 passengers that the *Manasoo* was licensed to carry. While the cattle cargo weighed about 55 tons, the ship did comfortably transport, in its recent past, 145 tons of freight on her main deck when she steamed between Toronto and Buffalo. An inspection of the ship and its trim, made by Captain McKay prior to departure, proved the vessel to be safely loaded. With a slightly reduced, post-season crew of 19, and with only two passengers, namely the owner of many of the cattle, Donald Wallace, a rancher from Oil Springs, Ontario, near Sarnia, and his friend, Thomas Lambert, from Petrolia, Ontario, who went along to keep Wallace company and for the pleasure of the trip, the *Manasoo* steamed out of Manitowaning on eastern Manitoulin Island at 5:30 p.m. on Friday, September 14, 1928, heading south to Owen Sound, scheduled to arrive there at about 5:00 a.m. Saturday.

Don Wallace and his friend feasted on, understandably, steak dinners in the *Manasoo*’s dining room at about 6 p.m., then enjoyed the comfortable cruise and the pleasant weather that Friday evening from deck chairs as the ship



For what was to be the *Manasoo*’s final trip of the 1928 season, the vessel was modified to take 116 head of cattle from Manitoulin Island to the city of Owen Sound on lower Georgian Bay. (Kohl-Forsberg Archives)

serenely steamed past wilderness islands and sparsely inhabited shorelines. Aware that they would need to rise early in the morning, the two men retired to their respective bunks in their cabin for the night at about 9 p.m.

At approximately 11 p.m., when the *Manasoo* was off Cabot Head, the tip of the Bruce Peninsula, the wind picked up speed and the seas on Georgian Bay grew threateningly large. Attesting to the dangerously strong gales in this area was the fact that, just 50 miles [80 kilometres] to the southwest of the *Manasoo*, another Lake Huron vessel fell victim to the weather. The 37-year-old, 72-foot-[22-metre]-long wooden tug named the *A. V. Crawford*, assisting another tug in towing a barge from Kincardine towards Georgian Bay, became stranded by the pounding waves in shallow water shortly after midnight nearly half a mile [0.75 kilometre] north of the mouth of the Saugeen River at Southampton, Ontario. While

Below: Numerous ships, finding themselves in awkward situations, have been photographed in a *Manasoo*-like angle – but no other ship has ended up on the bottom in that position! From left to right: The Canadian steamship, *Princess May*, built in England as the *Cass* in 1888, stranded off Alaska’s Sentinel Island on August 5, 1910, but was recovered. The ship sailed for another 25 years before being scrapped. The *Roebuck*, an 1897 passenger ship owned by Britain’s Great Western Railway, ran aground on July 19, 1911, in a dense fog off the island of Jersey in the English Channel. The ship was recovered, but sank in a collision with another vessel at Scapa Flow on January 13, 1915. The passenger steamer, *George M. Cox*, ran aground off Lake Superior’s Isle Royale on May 27, 1933. The *Cox* broke up and lies scattered off these rocks – see *Wreck Diving Magazine* #34 for the *Cox*’s story. (All Kohl-Forsberg Archives)



Captain McDonald and his crew reached shore safely in their small lifeboat, they lost all of their belongings, managing to save only the tug's compass. The aging timbers of the *A. V. Crawford* were quickly battered to pieces by the heavy seas, reducing the boat to a "hulk in the water without shape of any kind."

It was this same storm that plagued the *Manasoo* that night as it steamed closer to Owen Sound, its final destination. Because the strong winds were blowing out of the southeast, it was not until the *Manasoo* was nearly at Griffith Island, taking advantage of whatever small wind protection was provided by Cape Rich, that the severe water conditions were reduced to rolling waves.

However, another problem was first noticed at about 2:35 a.m. – the *Manasoo* was listing to port, with the stern dropping deeper and deeper. Something was seriously amiss!

The list was so severe that the two passengers, aroused in their cabins initially by the bellowing of the cattle, were awakened fully because their mattresses were sliding. They hastily threw on some clothes and climbed up a steep angle out of their cabin doorway as water broke into the cabin windows on the port side. At that point, Second Mate Frank Hutchinson ran past them, intoning, "My God, my God!" while donning a life jacket. Returning to their cabin for life belts, Lambert struggled to put his on properly, but Wallace, in the chaos, could not find one, despite each cabin being equipped with three of them. Both men then climbed a ladder to the upper deck, where they joined a number of sailors at the railing. Worried that the rush of cold water would cause the two boilers to explode, Wallace decided to take his chances elsewhere; he mounted the rail and made a giant leap into the cold waters of Georgian Bay.

In the pilothouse, Captain McKay, along with First Mate Osborne "Ozzy" Long, Second Mate Frank Hutchinson, and wheelsman Maitland Beattie, was puzzled by the portside list – the ship was listing INTO the prevailing wind! Captain McKay ordered Mate Long to go below and trim the ship with the four, large barrels of sand that were stowed there for that purpose, a move to the starboard side quickly accomplished with assistance from a few deck hands, including oiler Roy Fox. Don Wallace's automobile, also on the main deck, was moved to the starboard side and chocked in place, hoping that it would help serve as corrective ballast.

Purser Art Middleboro, a medical student who remained working on the *Manasoo* a bit longer than the other summer students, was asleep in his bunk when the beginning of the ship's list awoke him. He noticed that his claims tickets, hanging in long strips from a nail in the wall, were on a slant. Still in his underwear, he quickly



Top Photo: The huge passenger steamer, *Manitoba*, lowered one of its life boats and rescued the five weak men from the *Manasoo* who were still alive after drifting for 60 hours on their raft. (Kohl-Forsberg Archives)

Bottom Photo: Immediately after the rescue of the survivors from the raft, extensive searches by tug boats, pleasure craft, and airplanes scoured lower Georgian Bay in hopes of finding more *Manasoo* survivors. None was found. (Kohl-Forsberg Archives)

headed to the wheelhouse and asked why the ship was listing. “We don’t know,” was the answer he received. Chief Engineer Thomas McUtchen reported to the pilothouse that “the back end is full of water.”

Roy Fox quickly put on a life belt and headed up to the lifeboats. The ship’s list was now so pronounced that the two lifeboats on that port side could not be launched, so, pulling out his jack knife, Fox cut the ropes that held the forward starboard lifeboat in place. The boat, however, became tightly wedged into the davits and could not be freed.

One after another, these men and others, finally aware that the ship was doomed, jumped into those dark waters in the middle of the night. Middleboro, a strong swimmer, immediately headed away from the sinking *Manasoo* to avoid the suction that would be created when the ship made its final plunge to the bottom. Treading water, he saw the *Manasoo*’s bow angled about 25 feet [7.5 metres] above the surface, while its stern was completely submerged. Then, suddenly, the ship plunged beneath the rolling waves and disappeared in the darkness.

* * * * *

On the morning of June 30, 2018, the three-man team of wreck hunters evaluated their unproductive situation. They had crisscrossed many square miles of lower Georgian Bay to the east, northeast and southeast of Griffith Island, but had come up with nothing in the way of any shipwreck, let alone one named the *Manasoo*. Ken and Jerry, both from the Lake Superior region, were used to searching for shipwrecks in very, very deep water – from 300 to 850 feet [90 to 255 metres] -- and succeeded in actually finding them. They thought that we had somehow missed “seeing” the wreck in deep water on the side scan sonar screen.

I shared my experiences about trying to find the *Wexford*, a steel freighter lost with all hands in the notorious Great Storm of 1913, the worst storm in recorded Great Lakes history (see *Wreck Diving Magazine* #31). “In 1991, the second year of our search,” I told Ken and Jerry, “we looked for the *Wexford* in Lake Huron off the town of Grand Bend, Ontario. When Jim Stayer asked me, ‘When shall we begin the search?’ I suggested that we start in 80 feet [24 metres] of water and head out deeper from there. I told Jim that, if the wreck were in any shallower water, someone would have found it by now. We didn’t find it. But nine years later, a retired gentleman, out fishing in his little boat, accidentally found the wreck – in 75 feet [22.5 metres] of water off Grand Bend. We had missed it by about 1,000 feet [300 metres]. Lesson learned: you should never say that a shipwreck can’t lie in water that shallow!”

Ken was reluctant to search in shallower water closer to the Griffith Island lighthouse because his own research had indicated that the *Manasoo* had gone down in 300 feet [90 metres] of water. Then I told him that, if I were the captain of a sinking ship, I would head my vessel to the nearest land to try to run it aground. So, reluctantly, on June 29, he let me take his boat down one long line running from north to south, parallel to, and closer to, the island than we had ever searched before. I steered a

Ken was reluctant to search in shallower water closer to the Griffith Island lighthouse because his own research had indicated that the *Manasoo* had gone down in 300 feet [90 metres] of water.



Top to Bottom: For several days, the search team crisscrossed the vast waters of lower Georgian Bay, unsuccessful in their hunt for the *Manasoo*. The crooked vertical line closest to Griffith Island was steered by the author – proof that he needed more experience in handling Ken Merryman’s boat! (Photograph by Cris Kohl, sonar courtesy of Ken Merryman)

After several passes of the shipwreck at different angles, it was clear that there was something very odd about this wreck – it did not appear to lie flat on the bottom the way shipwrecks normally tend to do. (Photograph by Cris Kohl, sonar courtesy of Ken Merryman)

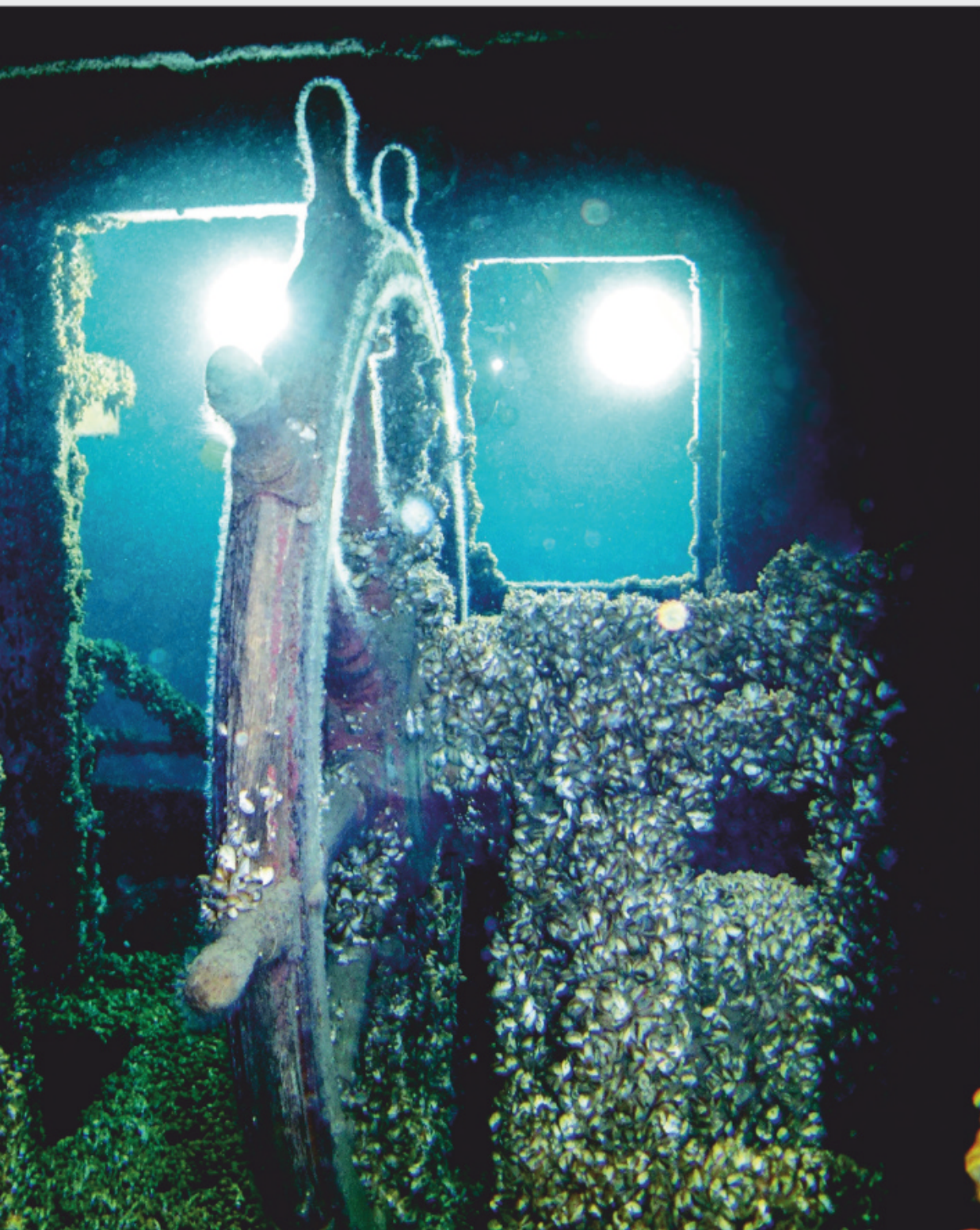


Clockwise: Cris Kohl carefully lowered the drop camera with its four underwater lights – an amazingly useful device built by fellow wreck hunter, Jerry Eliason. (Photograph by Ken Merryman)

The Griffith Island lighthouse, one of six “imperial” style lighthouses constructed on Georgian Bay in the 1850s, remains in use today, although now unmanned and fully automated. It began to make sense to the searchers that the *Manasoo*, sinking in the darkness of night, would head for the nearest visible land – namely this lighthouse. (Photograph by Cris Kohl)

This detailed drawing of the wreck of the *Manasoo* depicts several of its unique features – the angled bow pointing skyward, allowing divers to swim under it, the intact pilot-house, and the three lifeboats that remained with the wreckage. The 1927 automobile is on the starboard, or other, side of the wreck. (Courtesy of the artist, Robert McGreevy)





pretty crooked course covering, on average, 250 feet [75 metres] of water depth, but the wreck was not there. Disheartened, Ken was convinced that we somehow missed it in our crisscross pattern over deeper waters, and that we should go over that area again just to make sure it wasn't there. I was reluctant to ask Ken to make another run along a north-south line, this time even closer to Griffith Island.

Fate plays with us in unusual ways. On the morning of June 30, Ken telephoned a diver, whom we both knew, living in nearby Wiarton, Ontario – Alan Given, who once ran a dive shop in Wiarton, where he was also once the mayor. He told us about a diver acquaintance of his, long deceased, who claimed to have found the wreck of the *Manasoo* in 150 feet [45 metres] of water off Griffith Island.

Ken's ears perked up. He suddenly had a reason for searching in the shallower waters off Griffith Island.

* * * * *

Art Middleboro, in the middle of the night of September 14-15, 1928, just after the *Manasoo* sank, started swimming towards the lighthouse on Griffith Island. He had gone just a few dozen strokes when he saw something floating ahead of him in the water. It was the life raft that had lain, unfastened, on the *Manasoo's* uppermost deck.

The first men on the life raft were Oiler Roy Fox, Chief Engineer Thomas McUtchen, and Purser Art Middleboro. They soon assisted passenger Donald Wallace on board when he swam to the raft, and, before long, Captain John McKay, the last man to leave the sinking *Manasoo*, and a very exhausted First Mate Osborne "Ozzy" Long, joined them. They tried to paddle the awkward, bulky raft, using their hands, towards the Griffith Island lighthouse, which they estimated to be about half a mile away, but they made very slow progress. They spotted a long oar floating nearby, and Middleboro, still in his underwear and life belt, jumped in and retrieved it. However, it proved too heavy and ineffectual. Middleboro and Long even jumped into the water and tried pushing the raft to the slowly-approaching shoreline – but then the wind changed to the west, taking them farther out into the bay in an easterly direction.

Within an hour of the sinking, the large steamer, *Manitoba*, bound for Owen Sound, cruised past the life raft, but, in the darkness, the survivors were not seen. It was also determined that the steamer, *Caribou*, had passed abeam of the sinking ship not long after it went down. Yet no one saw any sign of a mishap.

When daylight came about three hours after the sinking,

The huge ship's wheel inside the *Manasoo's* pilot house is clearly visible as technical divers Greg Hilliard (left) and Ken Merryman carefully approach the structure. (Photograph by Terry Irvine)

Despite multiple layers of zebra mussels (invaders to the Great Lakes from saltwater areas in the late 1980s), the *Manasoo's* wheel inside the pilot house remains quite intact and identifiable. (Photograph by Terry Irvine)

the men on the life raft saw, in the distance, an overturned life boat with two men, Second Engineer Francis Scott and one of the teenage deck hands from Sheguindah on Manitoulin Island, either Ely or Ambrose Shawana, cousins, clinging to it. Waves washed steadily over the lifeboat, and, before long, only one man remained, but he and the lifeboat soon drifted out of sight.

All day Saturday, the westerly wind blew the life raft across the bay towards the east, at one point taking the survivors to within a mile [1.6 kilometre] of Christian Island, only to have the wind change direction once again to south east, taking them slowly back towards Griffith Island.

The nights were cold and the days were hot, and the six men on the raft suffered endlessly. One of the raft's buoyancy floats appeared to be damaged and taking on water, with the raft already low in the water from the weight of the six survivors. Every wave broke on the raft, keeping the men constantly soaked. The best they could do was huddle together for warmth.

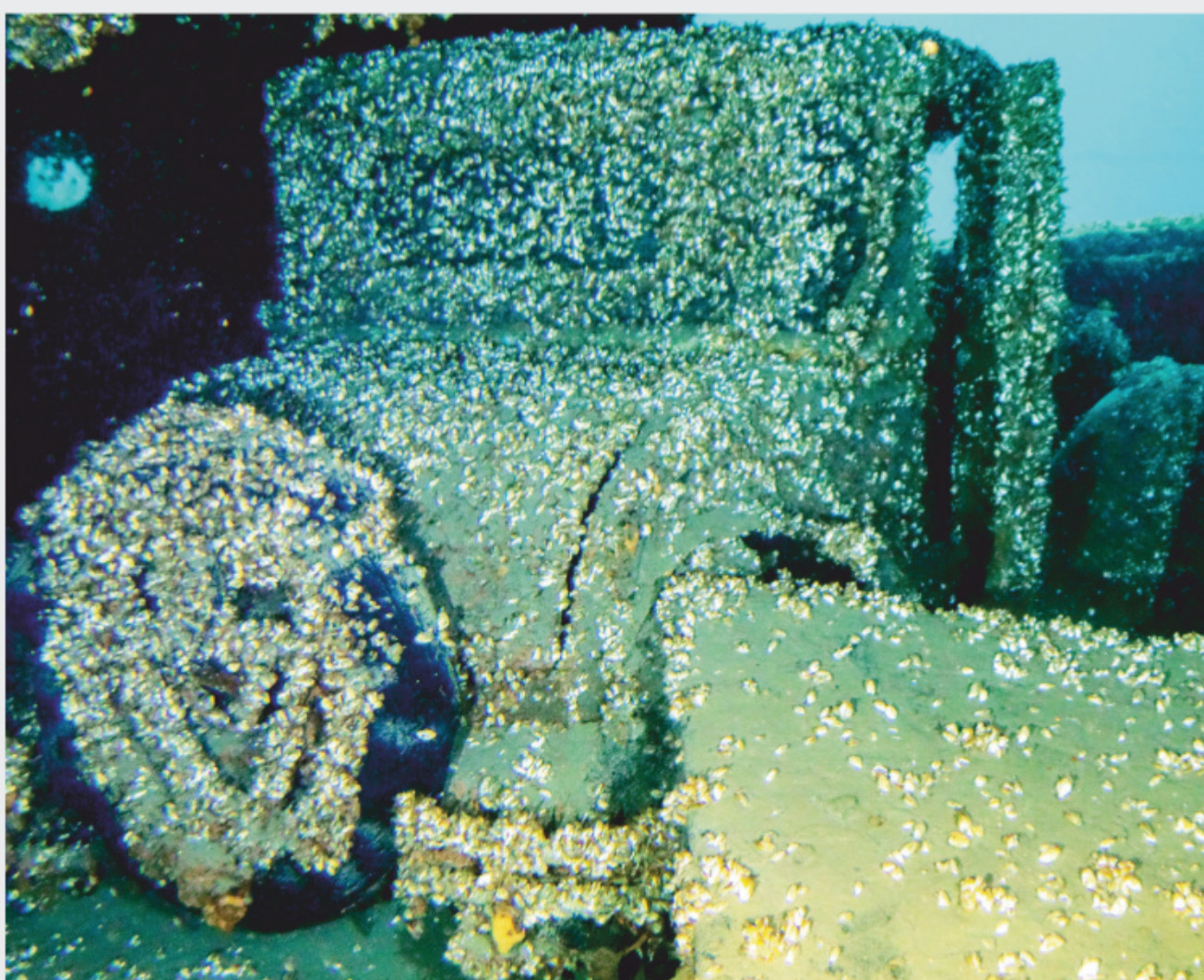
The waves were still high on Saturday, but by Sunday, the winds had abated. While several fishing party and pleasure cruise boats were on the waters near the area where the *Manasoo* reportedly sank, all taking advantage of the final summer weekend of 1928, none spotted the raft with its six survivors, later prompting one newspaper to call this "a great mystery in the minds of many."

On Sunday night, the seas again turned heavy, and rain fell endlessly from a lightning-filled sky. By Monday morning, the men realized that they were probably going to die. At about noon, McUtchen lost consciousness and passed away at about two o'clock. The survivors removed most of his clothing and gave it to Middleboro, who had remained in his underwear all this time. McUtchen's body was lifted into the water to lighten the raft. His body was never recovered.

An hour later, the large passenger steamer, *Manitoba*, passing again on her way to the Soo this time, spotted Roy Fox waving Ozzy Long's shirt (Ozzy was too weak to wave it himself, and he barely had the strength to take it off.) and rescued the survivors. The five slept on board until about 9 p.m., long after they had returned to Owen Sound, at which point they were all transferred to the Owen Sound General and Marine Hospital for examination and treatment.

After their rescue, the survivors sang the praises of Art Middleboro, who never lost faith and remained cheerful, although badly sunburned, throughout the entire ordeal.

A major search involving tugboats and aircraft commenced, and ran for several days, in hopes of finding more survivors, but these were unsuccessful. Then a longer



Although silt-covered and dappled with zebra mussels, the 1927 automobile, which belonged to the man who owned most of the cattle on board the *Manasoo* and who was the only passenger to survive the sinking, still retains its very readable "Chevrolet" logo above its radiator grill. (Photograph by Terry Irvine)

All of the curves and angles of a typical automobile from the 1920s can be easily seen, and even the spare tire mounted on the trunk is readily identifiable. (Photograph by Terry Irvine)

Art Middleboro, in the middle of the night of September 14-15, 1928, just after the *Manasoo* sank, started swimming towards the lighthouse on Griffith Island.

hunt to locate and recover bodies began.

The cause of the sinking was never determined, but one logical reason was surmised:

...The latest story, and one which seems to be well authenticated, is to the effect when the steamer was coming down through the gap in the teeth of the storm, one of the plates gave way. This fact was quickly discovered and it was decided to beach the boat on Griffith's [sic] Island. However, before action could be taken, or at least before much headway had been made toward the island, it is said that the fires in the boilers were extinguished by the inrush of the water, and the boat was helpless. The water then came in so fast that she listed still more and finally, in a few minutes, sank. [Owen Sound Daily Sun-Times, Tuesday, September 18, 1928]

Only two bodies were eventually found: 24-year-old Fireman Dougal McLean near Vail Point, with a life belt wrapped around his neck (an autopsy determined that he had strangled to death rather than drowned) on September 19, and 23-year-old Second Mate Frank Hutchinson, located near Penetanguishene on September 28. Five days after the sinking, considerable wreckage had been collected by groups searching for bodies along the Georgian Bay shoreline. The life raft upon which the five men struggled for survival for 60 hours was recovered off

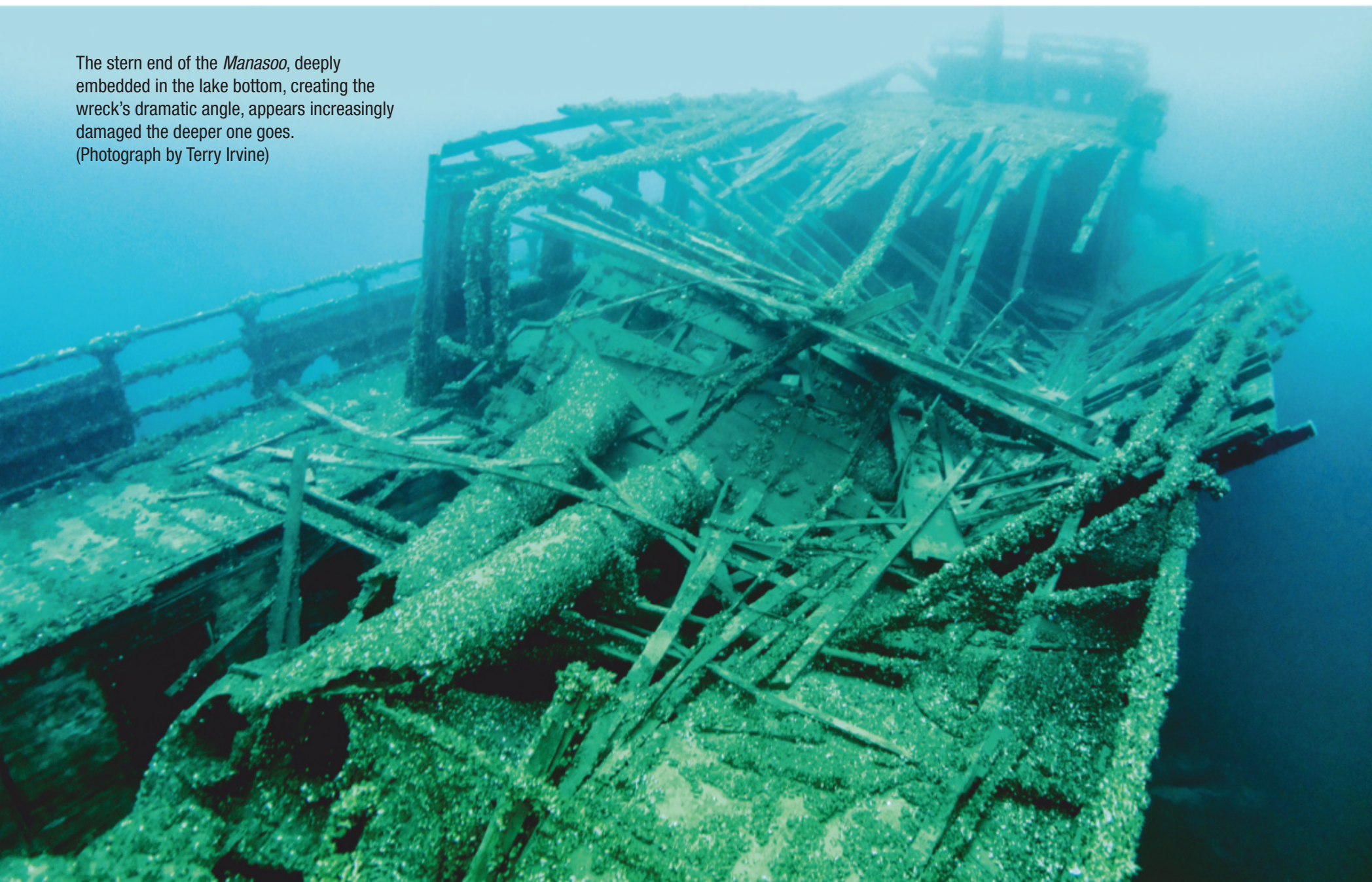
Vail's Point by the tugboat *Saymo* on September 21 and taken to Owen Sound.

The Department of Marine immediately ordered a full investigation into the sinking of the *Manasoo*, placing Captain Leander Demers at its head and scheduling it for the first week of October 1928. The many witnesses included the five survivors, company officials, naval architects, and even Charles H. Hardy who, 40 years earlier, had captained the then-*Macassa* across the Atlantic Ocean to the Great Lakes shortly after the ship's launch in Scotland. Controversy arose during the hearings when passenger Donald Wallace testified that Captain McKay told his three crew members, when they were on the raft, that they all had to agree on one story, an accusation that they all denied.

In the end, Demers' report made four blunt statements: 1. The *Manasoo* was in a safe and seaworthy condition; 2. The stowing of the cattle was done improperly; 3. There appeared to be neglect in leaving ports open when bad weather existed (the middle deck ports had been left open to combat the stench from the cattle there); and 4. The loss of lives was attributable to lack of judgement, perception, organization, and neglect on the part of the Master and First Officer..."

Despite the fact that the banner headline in late October 1928, proclaimed, "No One Blamed By Jury in *Manasoo* Disaster," Demers did feel that the Captain and the First Mate were responsible for the tragedy, and he had their certificates revoked. Many supporters rushed to their defence, and, finally, in the summer of 1930, First Mate Long's certificate was reinstated, but McKay was demoted to a First Mate, an action that he refused to accept.

The stern end of the *Manasoo*, deeply embedded in the lake bottom, creating the wreck's dramatic angle, appears increasingly damaged the deeper one goes. (Photograph by Terry Irvine)



With more help from his many supporters, his Captain's certificate was returned to him in December 1930.

The Owen Sound Transportation Company, despite experiencing difficult times during its first quarter-century, managed to hold on until the post-World-War-Two boom made it a very successful company. Today, it operates, among other vessels, the famous *Chi-Cheemaun* ferry between Tobermory and Manitoulin Island on Lake Huron, and the Pelee Island ferry boats on Lake Erie.

* * * * *

With renewed hope of locating the wreck of the *Manasoo* after being told that a long-deceased diver had claimed to have found it years earlier in 150 feet [45 metres] of water,

we searched closer to Griffith Island. I was pleased; I didn't care what it took, even a rumor that could very well prove to be wrong, as long as we searched in that most logical area.

Within three hours, we found the wreck sitting in just over 210 feet (63 metres) of water, that depth casting doubt upon the rumor of the wreck having been found years earlier in 150 feet. But our side scan sonar image indicated that the wreck was not sitting or lying on the bottom in the usual shipwreck manner – this wreck's tail end had embedded itself in the soft bottom, putting the forward half of the wreck on a very unusual angle aiming towards the surface. We carefully lowered Jerry's drop-video camera that he had built, complete with lights, and soon our jaws dropped repeatedly as we realized that there were several very unusual things about the shipwreck that we had just found:

1. None of us had ever seen a shipwreck resting on such an unusual angle off the lake floor. Numerous examples of ships stranding on rocky reefs exist, showing shipwrecks on just such an angle – but they are all above water. (See, for example, the *George M. Cox*, wrecked in Lake Superior in 1933, in *Wreck Diving Magazine* #34.) If the ship eventually sank, it usually broke up and lay flat on the bottom of the sea. But with the *Manasoo*, divers can actually swim under the bow half of the shipwreck! In other words, the *Manasoo* ended up on the lake bottom on the exact same angle as when she disappeared from the lake surface.

2. The *Manasoo's* pilot house, rising high above the lake floor, is intact, complete with a huge, wooden ship's wheel, a brass binnacle housing the compass, the telegraph, and a wall clock, all still in place. Usually when a ship sinks, the pilot house is separated from the rest of the vessel by the sudden rush of escaping air as water rapidly fills the hull, but this did not happen with the *Manasoo*.

3. Three of the four life boats on the *Manasoo* went down with the ship, attesting to the suddenness and the unexpectedness with which the vessel sank.

4. There is an automobile, a 1927 Chevy Coupe, just inside one of the ship's starboard side openings. This is the vehicle that was owned by the only passenger who survived the sinking, the cattle man, Donald Wallace. The upright position and the intact condition of the automobile indicate that the *Manasoo* did not capsize, or tip over, as has been suggested, as a result of the cattle

shifting their positions below deck.

The very next day, which happened to be Canada Day (July 1, 2018), Ken, Jerry, and I found the wreck that I had spent more than 20 years, off and on, researching. In less than two hours of searching, we located the tragic, historic wreck of the coastal steamer, *J. H. Jones*, lost with all hands in late 1906. Ken and I became the first divers to visit that deep shipwreck. But that is another story for another day.

Ken, along with fellow technical divers Terry Irvine and Greg Hilliard, both from southwestern Ontario, became the first divers to see and photograph the unique wreck of the *Manasoo*. Their excellent photographs, as well as Ken's stunning, high-quality underwater video, appeared on dozens of web sites and in many newspapers and magazines around the world, as far away as the UK, France, Italy, Greece, the Philippines, New Zealand, and Bangladesh!

After our discovery, I felt compelled to continue the research into the history of this remarkable shipwreck and made an astounding find. Revealed in a small newspaper article was the fact that, on October 3, 1928, nearly three weeks after the *Manasoo* sank, a local fisherman named Charles Couture, with his son Alex, was bringing up his fish hooks from the east side of Griffith Island. One of their hooks seemed to catch onto something, which turned out to be a 25-foot [7.5-meter]-long piece of thick rope that appeared to have been in the water for only a short time. Couture marked the location by taking a couple of ranges, and felt confident that he could return to that exact position. Couture had also given the newspaper the accurate depth ("210 or 220 feet [63 or 66 meters] of water") and distance ("3/4 mile [1.2 kilometres] east of Griffith Island"). This information could have saved us much time in our searching – if only we had known. Another lesson learned: there is no such thing as too much research before heading out in the boat.

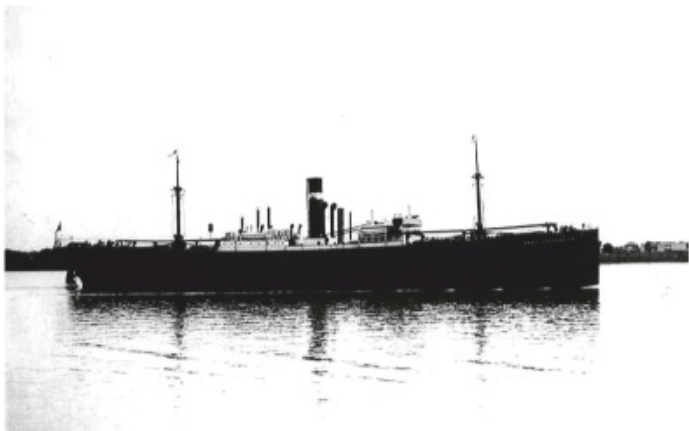
More than 7,000 shipwrecks lie on the bottom of the immense Great Lakes – the best-preserved shipwrecks in the world due to those cold, fresh waters – and we have found only about one-quarter of them. We breathlessly await the discoveries of many more exciting shipwrecks – and some may even be as amazing as the *Manasoo*! 

About The Author: Cris Kohl, maritime historian, has researched and explored shipwrecks for 45 years, producing 16 books (some co-authored with his wife, Joan Forsberg), and more than 300 magazine/newsletter articles.

www.SeawolfCommunications.com

About The Photographer: Terry Irvine, from Ontario, Canada, has been an avid cave and shipwreck diver for over 30 years, and has been involved in video documentation of Great Lakes shipwrecks, including the *Gunilda*, *Judge Hart*, and CPR 694. He has been a regular contributor to *Quest Magazine* since 2001.

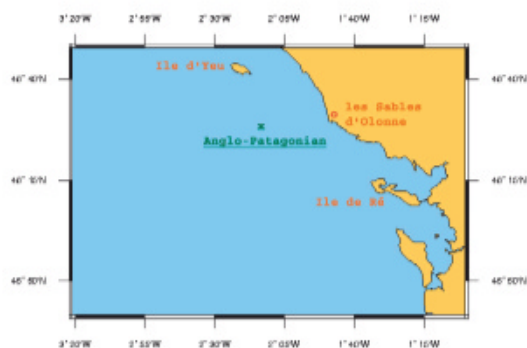
The *Anglo-Patagonian*



Text and photographs: Pascal Henaff

Drawing: Herve Marsaud

Translation: Loïck Penhoat



Top to Bottom: Archival photograph of the *Anglo-Patagonian*, starboard view. Courtesy of Cultural Services of the City of Sunderland.

Relatively nearby, the wreck of the *Anglo-Patagonian* is located 18 nautical miles off Les Sables d'Olonne.

The ship

This 5017-ton, gross tonnage cargo ship was built in 1910 by Short Brothers Ltd. from Sunderland, England, for Nitrate Producers SS Co., Ltd. The hull, made of riveted metal sheets, was 123.4m long and 16.09m wide. Four boilers fed the quadruple expansion engine and she could reach a speed of 10.7 knots.

The story

The *Anglo-Patagonian* left New York at the end of June 1917, bound for Bordeaux. The 45 crew members were commanded by F. W. Richardson. She was loaded with copper bars, mechanical parts, 220-mm shells, horses, and nitrate - all these being essential elements for trench fighting.

Thinking it would save time, the captain made up his mind to leave the convoy. The crew was on the lookout for the least hint of a German attack. Unfortunately, The UC72, commanded by E. Voigt, was lying in wait not far away. Two months before, he had sunk the *Saint Eloi* and the *Sequana* south of the island of Yeu. On July 11, 1917, at 01:15 a.m., 15 miles away from Les Sables d'Olonne, the *Anglo-Patagonian* was hit by a torpedo on the after starboard side. Four sailors were killed in the explosion. Hopelessly beyond repair, the holds filled with water and the *Anglo-Patagonian* sank.

In order to retrieve information, the German officer wanted to question the captain, but to no avail, as the latter couldn't be identified because he had removed his uniform.

The 41 survivors got into three life boats and were rescued the next morning at 7 a.m. by a fishing boat, the *André Camille*, which later reached the harbour of Les Sables d'Olonne.

The Sorima

In July 1933, the local newspaper in Les Sables d'Olonne wrote that an Italian company, the Sorima, SOcieta RIcupe-ri MARittimi, was working on the wreck of the *Anglo-Patagonian* and was trying to recover copper bars.

The salvaging work was risky and dangerous for the salvors. Moreover, the French Finance Ministry would grab a net 10% on the value of what was retrieved. Two boats, the *Arpionne* (the *Grapple*) and the *Rostro* (the *Bill*) were commissioned for the job. They used a simple and dangerous technique. A manned turret was placed into the water so they could set explosives which would tear the metal sheets and open the holds.

For crew safety, the boat had to drift away from the wreck before each explosion. Then, the boat had to be stabilized with ropes whose lengths were constantly changed according to the tide level.

Eventually the coveted material was retrieved with an articulated claw.

Dangers were many as the wreck could collapse or capsize. The explosives could trigger a chain reaction and steel ropes could break. The task wasn't easy because of currents and swell; moreover, steam-powered winches had very long response times.

Bearing

46° 26' 622 N

02° 12' 230 W

18 nm west off Les Sables d'Olonne – France

– Bay of Biscaye – Atlantic Ocean.

Depth: 46m

The wreck

Very often, visibility is good, even great, on this site.

When you reach the spot, the most remarkable feature that strikes you is the engine and the boilers. Swimming around is no problem. One boiler stands forward, and the other three are aligned side by side, parallel to the axis of the vessel. When moving toward the stern, you see that the huge quadruple expansion engine lies to starboard, and down below it, the shattered condenser is being used as a shelter by conger eels and lobsters. This large and interesting collection of elements might be enough for a first dive.

“On July 11, 1917, at 01:15 a.m., 15 miles away from Les Sables d'Olonne, the *Anglo-Patagonian* was hit by a torpedo on the after starboard side. Four sailors were killed in the explosion.

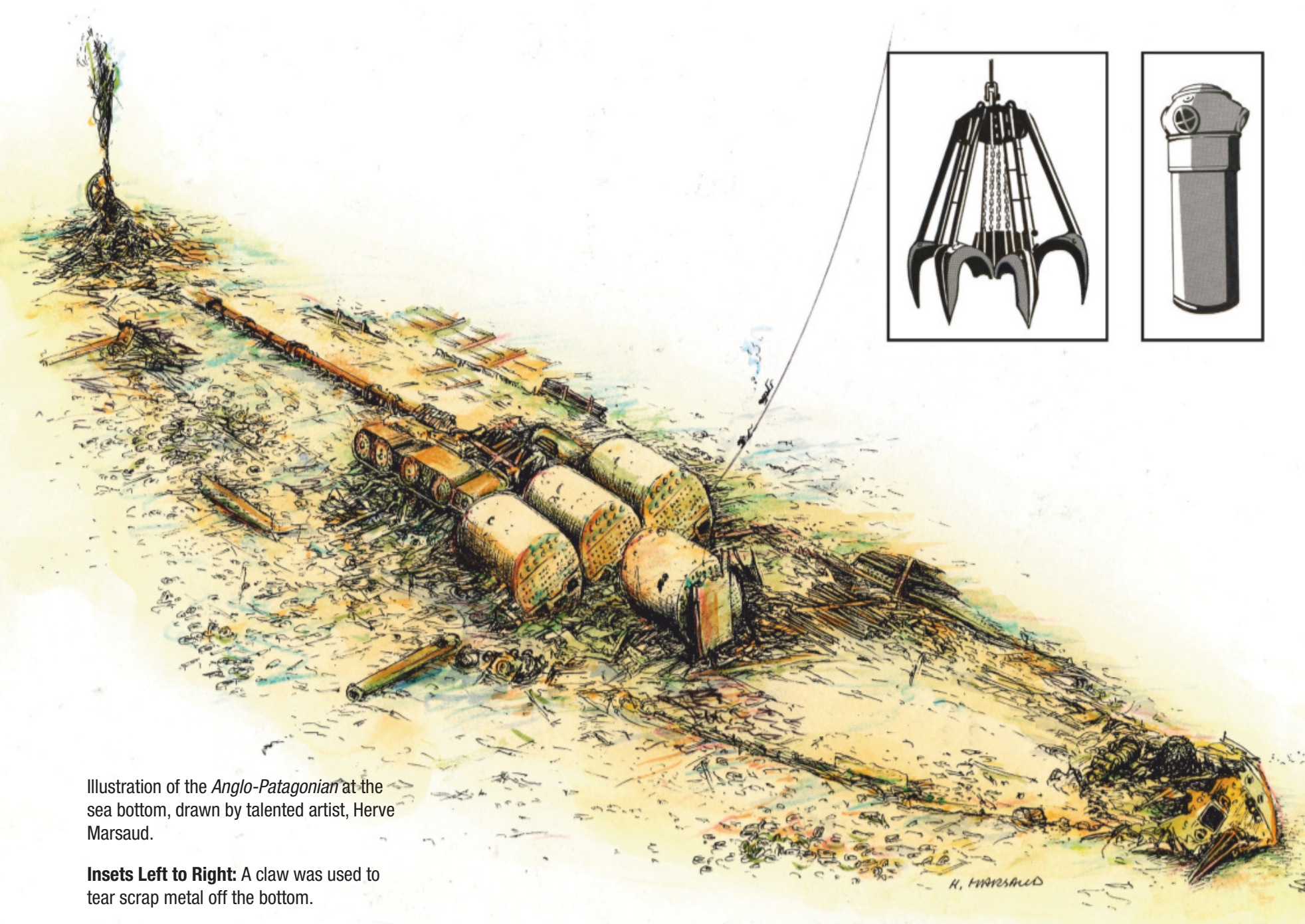
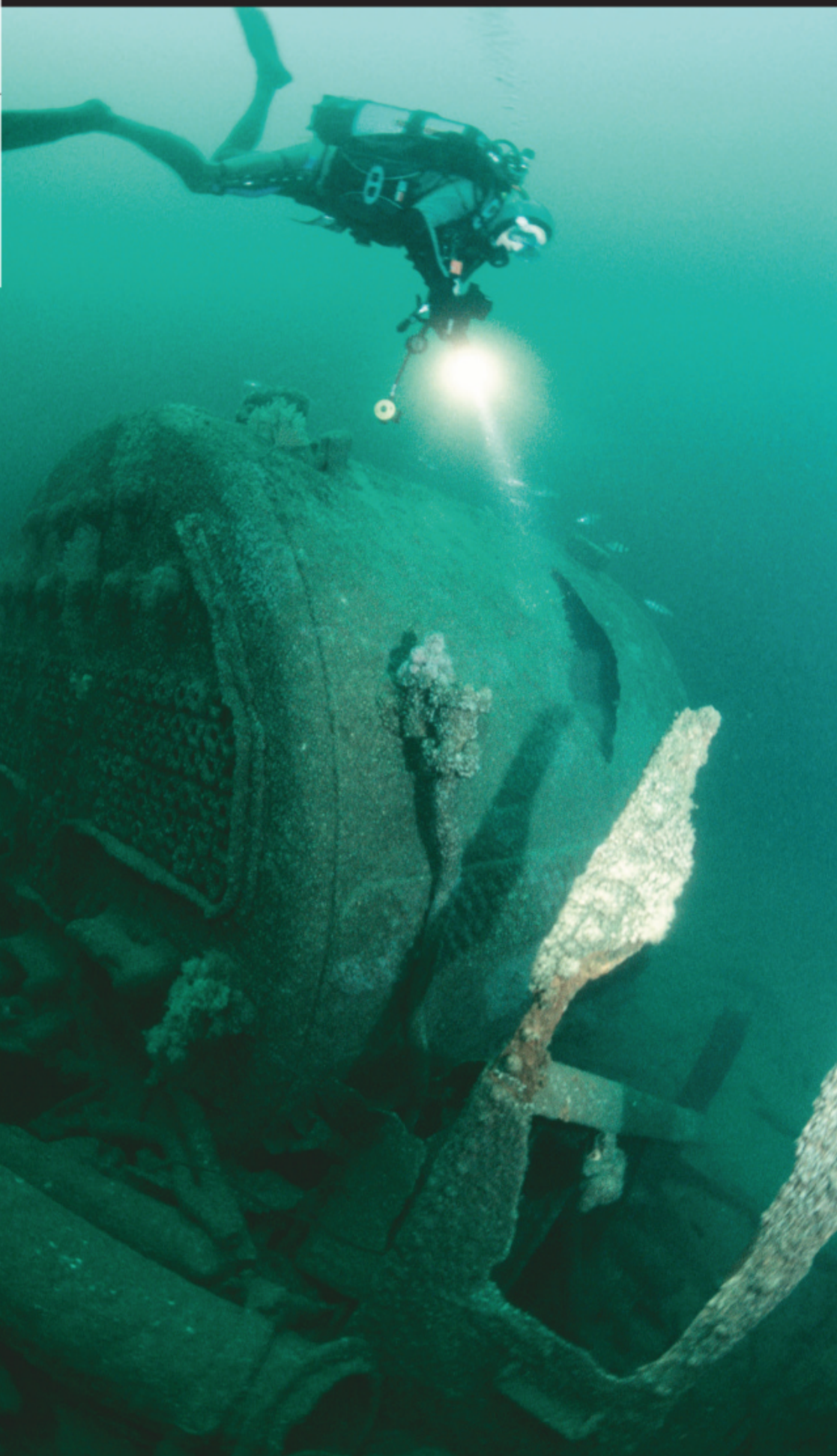
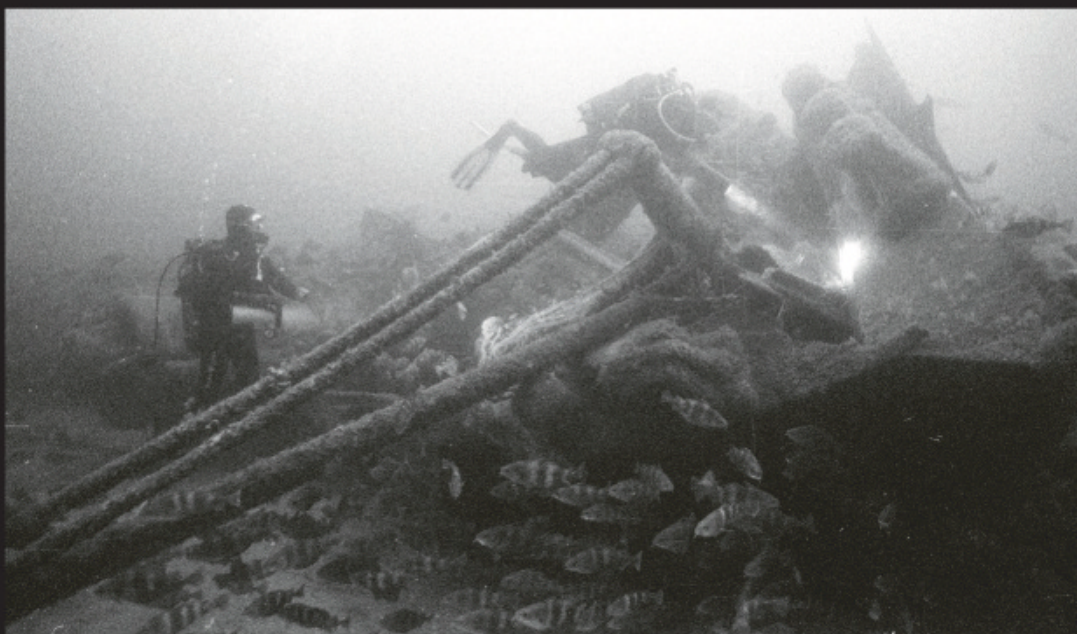
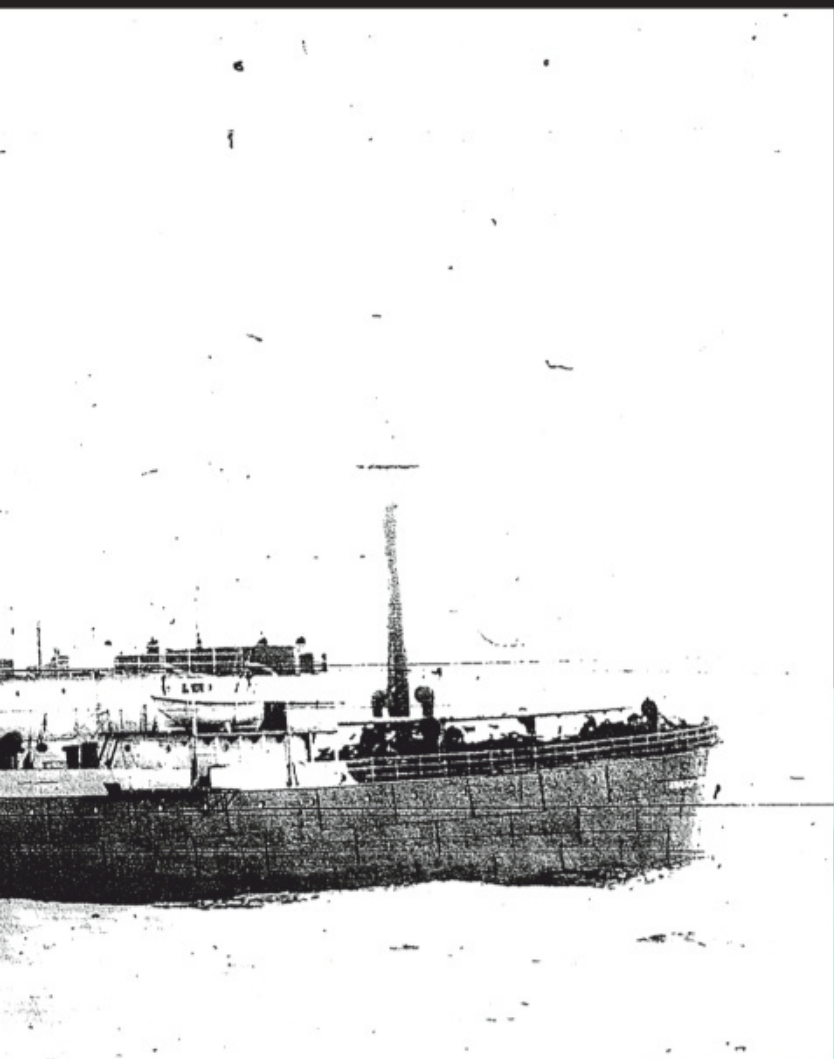


Illustration of the *Anglo-Patagonian* at the sea bottom, drawn by talented artist, Herve Marsaud.

Insets Left to Right: A claw was used to tear scrap metal off the bottom.

There was room for a sailor to stand in the observation turret of the salvage ship.





Clockwise: Archival photograph of the *Anglo-Patagonian*, starboard view. Courtesy of Cultural Services of the City of Sunderland.

Small crane on the bow of the *Anglo-Patagonian*.

The auxiliary boiler situated in front of the three others.

Colorful marine life abounds on the *Anglo-Patagonian*.



Clockwise: Always a highlight of a wreck dive, the main bell of the *Anglo-Patagonian* is a sight to behold.

Any bell on a wreck, even a kitchen bell, is an exciting find.

Divers can use the propeller shaft as a handy guide to find their way from the engine to the stern.

Opposite Page: The crane on the bow of the *Anglo-Patagonian*.





About the Authors:

– Herve Marsaud has been a diver since 1990. He is a maritime history buff and a retired professor of Applied Arts in a technical high school.

Website: <https://sites.google.com/site/hervemarsaudphoto/>

– Pascal Henaff has been a diver since 1975, and an underwater photographer since 1989. He has written articles for underwater magazines since 1995. Now, more specialized in wreck reporting, he travels all around the world when he can. Website: www.wildseapictures.com

Our book « *60 épaves en Vendée et Charente-Maritime* » is available on Amazon

– Loïck Penhoat is a retired teacher who worked abroad, and is a diver and wreck lover.

Youtube: Bay of Biscaye 's wrecks off les Sables d'Olonne by Pascal H:

Anglo-Patagonian :

https://www.youtube.com/edit?o=U&video_id=VXfh6fNrRNQ

https://www.youtube.com/edit?o=U&video_id=8519TfpGprc

https://www.youtube.com/edit?o=U&video_id=NOF9z760QSo

On the port side, shells lie among fragments of the hull. To starboard, the whole cargo has spilled out. Shells and wheels have been scattered far away from the theoretical limits of the wreck. A winch and the remnants of a cargo boom can be used for orientation. If one wishes to swim toward the stern, it's easy to follow the big propeller shaft which is still resting on supports at 1.5 meters above the bottom.

Here and there the protective casing didn't stand the test of time and is inhabited by conger eels. Its size is big enough for a diver to easily get inside.

Once at the stern which is no longer visible, the casing disappears into the sand, and what remains is the rudder axis set at a 45° starboard slant and the quadrant. Part of a net got caught there and can be seen up to a depth of 33m.

In order to explore the forward part of the vessel, it's better to follow the remains of the port side of the hull. Swimming a few metres, you then move along a three-meter-high part, set vertically. Carry on and you soon get to the bow resting to starboard where hawseholes and a cargo boom can be seen. Inside, a huge heap of anchor chains marks the end of the wreck. An access to the hold and the anchor windlass are easily recognized.

If you wish to return to the boilers while following the starboard side, there must be excellent visibility. What little remains of the hull there won't help much for you to find your way back.

You should never lose sight of the impressive boilers' mass to get back to the mooring weight.

The slow ascent to the stops zone enables the diver to keep an eye on the huge, fading structures of the wreck. That observation of the site might be hampered by the great abundance of fish. In fact, lots and lots of tacaud and pollock have made this site their home. Uncommon species such as octopus, monkfish, tilapia, and mola mola may also be seen.



“On the port side, shells lie among fragments of the hull. To starboard, the whole cargo has spilled out.”



HMS *P311*: A “SPECIAL FORCES” ROYAL NAVY SUBMARINE SUNK IN WWII

Text by: Gabriele Paparo &
Virginia Bateman
Photographs by: Gabriele Paparo

BACKGROUND

Mediterranean Sea, January 1943

We were in the middle of a world war that was fought with maximum effort and sacrifice from all parties. As with any war, every possible way to attack the enemy becomes “legal,” and all sides were in a tight race to find new technology and techniques to attack harder, attack more efficiently, attack lethally.

Italy is a country with ancient roots in the field of weapons technology even though, by WWII, it was behind because of some new Allied equipment (i.e.

sonar and radar). But, Italian men were in the process of developing a new way to strike enemy fleets in the water. A top-secret device, coined “maiale” (the word “pig” in Italian), was being engineered by two brilliant Italian Navy officers, Teseo Tesei and Elios Toschi. The birth of the maiale came about with two intentions. First, Tesei and Toschi (with their team) needed to stealthily sink the Royal Navy warships and UK supplier cargo vessels lingering in the harbors of the Mediterranean Sea. Second, they intended to do so by improving the old WWI concept of the world’s first manned torpedo, the “mignatta.”

From the beginning of the war, a very small team of Navy divers had been training vigorously in a secret location in Tuscany (a very famous region for wine, not war!) perfecting these new, unconventionally small submarines, and the operative procedures to use them in a satisfactory way.

At the same time, mechanics and logistic personnel had been working non-stop to complete manufacturing operations on the maiale, also called “Siluro a Lenta Corsa,” SLC, otherwise known as a Low-Speed Torpedo. A Low-Speed Torpedo was a modified torpedo which allowed two divers to ride the device, using rudders and instruments in order to drive the torpedo to its designated target. The warhead was fitted with a “delay fuse” which permitted a postponed explosion.

In addition, Italian Navy submarines attempted to find ways to transport the SLCs by trained crew members who could successfully maneuver these modified maiales close to their target zones, all under the cover of darkness. Doing so gave the divers the element of surprise so they could successfully complete those dangerous missions.

ALL of the men involved, (divers, submarine crew, logistic personnel), exemplified unwavering courage, even in the face of death. The missions were really very dangerous, the number of fatalities - "mission abort" - prove it. Many of the men involved were lucky enough to return home, where most were honored with medals by the Italian and (post-war) British military.

Despite the initial failures, the Italian Special Forces team was able to convert its mishaps into successes and complete a powerful attack on the Royal Navy "Mediterranean Fleet" ships camouflaged in a harbour in Alessandria, Egypt. The strike proved to be so impressive that the Royal Navy formed its own Special Forces team, not only modeling its tactics after the Italians, but engineering its own version of the maiale - the "Chariot."

It was approximately that time that the HMS *P311* suffered its tragic and short story. This new brand of submarine was assigned to be a Chariot carrier, as was the Italian maiale-carrying submarine, *Sirce*, (sunk off the shore of Haifa, Israel, during a similar mission). She, along with many other vessels, found her end at the bottom of the ocean floor after striking enemy naval mines off the coast of Italy.

THE SUBMARINE HMS *P311*

The HMS *P311*. Measuring 85 meters (280 feet) long, eight meters (26 feet) wide, with 1560 tons of machinery, fully equipped with a 102mm (4-inch) gun and 17 heavy torpedoes readily launchable from 11 torpedo tubes, this class "T" submarine was one of the biggest sailing on the Mediterranean Sea during the Second World War.

At the surface, two 2500-cv/hp diesel engines could push her at a maximum speed of 15 knots.



A watercolor diagram showing how divers were placing the explosive charges under the hull of an enemy ship.

Previous Page Top: A Royal Navy chariot being recovered on board or launched for a new training mission.

Previous Page Bottom: A fully equipped Italian SLC (Maiale) on the surface.

Able to descend comfortably to 90 meters, the 1450-cv/hp electric engines could propel her to a maximum of nine knots.

In order for the *P311* to be based with the Mediterranean Fleet in Malta, the Royal Navy launched this submarine into the sea. The lack of a proper title served as a display of how new this vessel was – simply known as *P311* – as she was sent to complete her first mission.

The submarine was commissioned in August 1942, only five months before her loss. Intended to be named Tutankhamen, the HMS *P311* unfortunately sank before receiving her proper name, taking her only captain, Sir (CDR) Richard Cayley (an honorable Royal Navy submariner), and all 71 crew members with her.

Her final mission, "Operation Principle," was an Allied military operation intended to use onboard Chariots to attack two Italian battleships, ITS *Gorizia* and ITS *Trieste*, stationed in the well-protected waters of La Maddalena (located in the Archipelago north of Sardinia, Italy). After living there for five years and personally becoming familiar with the waters, I can say that the natural protection of shallow reefs and strong currents together with the submerged nets and minefield laid by the Italians would have made the mission impossible. If the British had had any idea what they were dealing with,

they would have never made an attempt!

The key factor triggering the interests of both divers and historians alike is that there are still containers of Chariots inside! What if, even after a big explosion, even after 70 years, one of the containers is still sealed?? It would mean that there is a brand-new piece of history 100m/330ft below the surface!

THE DIVE

We chose an unusual time of the year to plan a deep dive in northern Sardinia. It was the end of October, and weather can be tricky – winds are often unpredictable – but we checked the forecast throughout Friday night: Saturday, fair weather, no winds. Without perfect conditions, the long sail to our destination would have been difficult, the three-hour, deep dive would have been impossible.

My two friends, Luca Magliacca and Mario Guareschi were sitting with me, fingers crossed. Every training dive up until this one had been executed perfectly. Finishing their APDiving Vision Unit, “Advanced Mixed Diver,” training with the HMS *P311* on their dive logs would be remarkable. Magliacca is the Technical Diving department manager at Orso Diving, a well-known dive center in Poltu Quartu (North Sardinia). His knowledge and expertise are well-known; it took him no time at all to map out the logistical plans for the dive. Magliacca assigned his more experienced coworker, Checco, to captain the long sail. Checco would also be a great help in assisting in entry and exit of the water. This very same team helped M. Domenico Bondone discover the wreck in May 2016.

We mixed the hypoxic diluent for our rebreathers, boosted the oxygen cylinders up to 230bars/3400psi, and refilled about 10 bailout cylinders. We prepared the shot line, recharged personal lights and video lights, set the cameras, and checked the scooters – getting them ready in case of strong current. No detail was too small to be overlooked. We double-checked the p-valve. When divers descend deep into the depths of the ocean for hours at a time, every element of the operation must be calibrated for

success. Not just the success of the mission of the dive could be at stake, but the lives of the divers and the crew as well.

We arrived at the dive center at 9:00 a.m., even though the weather forecast called for an 11:00 a.m. launch. We loaded the *Libeccio*, a vessel equipped with a sizable, inboard diesel engine. She would bring us to the dive spot at a speed of 20 knots.

For our dive, Magliacca and Guareschi were equipped with two bailout bottles each. I was carrying three bailouts plus the camera. Checco





Divers swimming over the damaged bow section of the submarine HMS P311.

would put the Nitrox and oxygen emergency bailout bottles on the shot line.

Our one unknown factor was current. A lunar phase calendar isn't a reliable source for predicting currents in our particular dive location. We brought SUEX DPVs just in case we faced a strong current.

Finally, the captain turned on the engine and we began the long sail east, and later south, toward the beautiful Tavolara Island (where a NATO military base is located). Even then, after we set sail, we continued to discuss the dive

“We mixed the hypoxic diluent for our rebreathers, boosted the oxygen cylinders up to 230bars/3400psi, and refilled about 10 bailout cylinders.

procedures. We also chatted about World War II history – the reason we have so many shipwrecks to explore. On our way to the destination, we passed two such wrecks: the HMS *Felixstowe* and the *Nautilus-Languste*. Even though we were excited to explore, we took a somber moment to remember all the men who lost their lives fighting for their countries.

At 11:30 a.m., the boat slowed down. We were getting near the dive site. As we inched our way closer, we were pleasantly surprised at the weather conditions. No wind at all and the sea was as flat as a frozen pond! The sun was warming up our black undergarments as if we turned up the thermostat.

Once we spotted the shape of the HMS *P311* in the ecosounder display, we deployed our shot line. We were amazed to see the buoy remain perfectly still! No wind. No current! We went through our final body-checks before jumping into the crystal-clear water, typical of this area of Sardinia. We started our long descent, the sandy bottom 104m/ 345ft below us. At a depth of 150 feet, we noticed a slight change in visibility (getting a little worse) as we reached the second thermocline. The current remained still. At 80m/250ft, I started to see a dark shadow sitting on the clear bottom; I was on the stern side of the submarine wreck!

I continued downward. My eyes, adjusting to the darkness, swept across the wreckage. As I approached, the details of the ship became clearer. I noticed a still, lingering shadow on top of the wreck. It was a huge grouper, not scared at all, waiting on top of the wreck to welcome us to her home! Excited, I rushed to turn on the camera and video lights so I could film her. I was scared she would disappear soon. On the contrary, she spent all of our bottom time swimming together with us, eager to be the “guest star” of my underwater movie!

The magnitude of the wreck coupled with its historical significance struck emotion in all of us. Every detail was there, including two big Chariot containers on the stern of the wreck. A single container that had been placed on the bow section was lying on the seabed after the explosion. The hull was completely covered by shells and mussels. To my surprise, I saw



thousands of shrimp enveloping the wreckage. There were no fully colored soft corals, typical on dive sites with strong current. The only colorful fish were the Mediterranean stonefish and many small red fish that swam in schools



Divers explore the conning tower of the sunken submarine.



A closed hatch of the submarine.



One of the big groupers living on the shipwreck.

around the wreck.

We swam around the entire body of the submarine, starting with the stern. We wanted to have a look at the propellers and rudders, which were still in good shape. We then headed starboard, with three large groupers “escorting” us. I snapped several pictures of the sail and gun before heading to the forward end. A mine explosion had damaged much of the forward end. The outer hull was opened, and its debris littered the sea floor. The cylindrical pressure hull with its torpedo launch tubes was visible even though it shouldn’t have been. The mangled debris gave us a glimpse of how powerful the explosion (probably from an Italian minefield) had been that led to the sinking of the HMS *P311* and the loss of all of her 71 crewmembers. As we started to swim back, we realized there was not enough time to complete one more visit to the stern; we had to start our long and delicate ascent.

We were going to need about two and a half hours of decompression before meeting again with Checco to tell him about our beautiful dive. Satisfaction was extremely high for having been able to visit and film such a historically significant dive site. 🤿



The HMS *P311* bollards with which to tie off at port.

TECHNICAL INFORMATION ABOUT THE DIVE

To dive this shipwreck, we were using E-CCR APDIVING VISION units with Trimix 10/60 as a diluent gas and GF settings 80/85 (*personal choice*).

Carried bail-out gases (using “team gas sharing”) were as follows:
Gabry: 7lt TX14/40 - 7lt Triox 27/28 - S40 EAN80

Luca: 7lt TX14/40 - 7lt Triox 36/20
Mario: 7lt TX14/40 - S80 EAN50
Decompression Station gases:
Oxygen, Air and Nitrox 50.

Minimum temperature was 14 Celsius (57F); during deco was 21 Celsius (70F). Runtime was 182’.

Photographs were shot using SONY ALPHA with EASYDIVE housing and EASYDIVE Video Lights.

SUEX Scooter was not used because of no current.



Author Gabriele Paparo (in the front), Mario Guareschi, Luca Magliacca, and Checco sailing back after diving the wreck of the *Scire*.

About the author: Gabriele Paparo is an active scuba diving instructor & technical/rebreather diving instructor for several scuba diving agencies (TDI – PADI – IANTD – RAID and more); He is also currently on active duty as an Italian Navy EOD/ Diver Officer as a CO (Team Leader) of the Divers/ EOD Unit detachment in North Sardinia (Italy). He has logged over 3000 recreational and technical dives and over 1500 logged commercial & military dives (over 23 years of continuous activity).

Gabriele worked over 10 years at the main base of Italian Navy divers & Special Forces (COMSUB-IN) as a diver, diver supervisor, explosive ordnance disposal technician, ROV / ADS pilot, Search & Rescue operator, and hyperbaric chamber operator/technician. Gabriele has been part of the inspection and recovery of shipwrecks, submarines and aircraft including: Canadair – Palermo 1996, F104 – Trapani, TOTI Submarine – *Cremona* and *Ardena* Shipwreck – Greece. His national & international mission activities have included: Enduring Freedom – Persian Gulf 2002, Bilateral training Bulgaria 2003, Lake Garda Clearance diving 2002 – 2006 and SNMCMG2 – MedSea 2009. He has participated in several national and international/ NATO exercises including: Deep Divex – Curacao 2008, Deep Divex – Portogallo 2010, Ex with US-NAVY in Sigonella 2010, Ex Mare Aperto 2008, Ex Loyal Mariner 2009, Deep Divex Canada 2011, Deep Divex Italy 2013, Deep Divex Norway 2015 and others.



Original SLC container from Italian submarine *Scire*. Museo Tecnico Navale, La Spezia, Italy.

Within Reach: The Wreck of Passenger Lake Steamer *TWILIGHT*

Text and Photographs by
Charles H. Lagerbom



Fellow diver Jon Cox surveys *Twilight's* exterior condition.

Moosehead Lake, located in the north Maine woods near the little town of Greenville Junction, is the largest lake in the state and largest mountain lake in the eastern U.S. It is almost forty miles long and covers an impressive 118 square miles. The home of several wrecks, its clear waters attract many divers who venture to this scenic corner in northern New England. Getting there is not all that easy up Route 15 out of Monson, but the trip is worthwhile. In the southern end of the lake, not far out of Greenville Junction itself, sits an interesting and largely intact wreck of a turn-of-the-century excursion steamboat named *Twilight*. If you ever wanted to explore an easily accessible, wonderfully intact, and very interesting piece of history, this fits the bill.

Twilight was an excursion boat for passenger lake travel, owned and operated by Coburn Steamboat Company. At 96 feet long, she had a beam of twenty feet. Ironclad to the waterline to protect against ice damage, the wooden vessel was built in 1910 at Greenville Junction. Propulsion was originally steam and propeller until she was converted to diesel. It is easy to imagine what she would look like in operation, since her modern mirror-image is Moosehead Lake's modern-day excursion boat Katahdin.

Winter-time for the passenger steamer meant in-water storage along the lake, hopefully where ice would not be too much trouble. The winter of 1921, however, was brutally cold and, in February, *Twilight* was partially stove by extensive ice. She gently sank along with part of the pier to which she had been moored. The steamer's bow settled just below the surface and her stern sank to a depth of about forty feet. Located less than thirty feet off shore at the appropriately named Steamboat Point, just up the lake from Greenville Junction, her coordinates are (45-28-09N / 69-37-15W). Shore access is prohibited, making the easiest and best way to get on site is by boat, just a 15-minute boat ride from the village. *Twilight* is protected by the State of Maine and nothing is allowed to be removed.

We drove up to the lake, pulling our powerboat, and camped on some land owned by a friend. After a great breakfast at Auntie M's diner in Greenville Junction, we motored out to the spot. The mid-morning light lit the surface, which made it difficult to see what was below. We could not make out whether or not we were over the vessel or not. I volunteered to grab my mask, fins, and snorkel, and jumped overboard. When I put my face under water, the entire wreck became startlingly visible. It was amazing lake water visibility. I could clearly see the bow just below the surface and the length of the vessel trailing down into the greener depths of Moosehead. Although the hull was intact, I noticed *Twilight's* superstructure quite broken up, which would make sense since repeated ice seasons likely continued to smash the vessel's topsides as she continued to settle into the water.

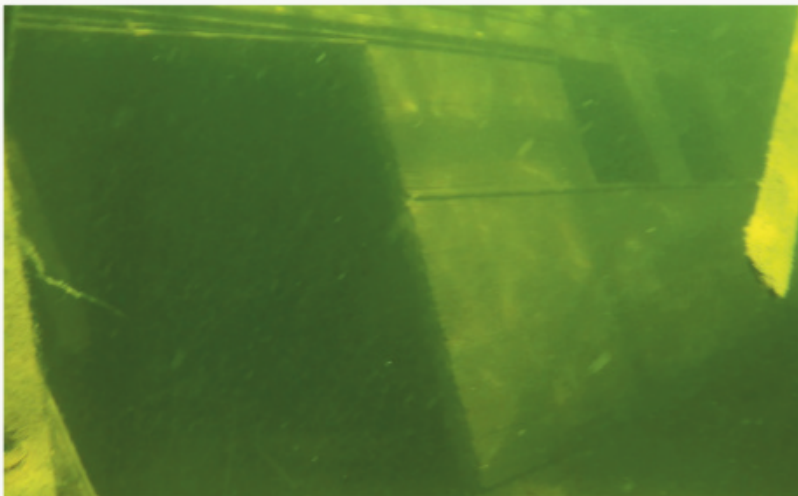
The bow is about five feet below surface, and it looks still moored to part of *Twilight's* pier which sank with her. Part of the remaining pier is still afloat and used as a private dock a few yards away. The ice that 1921 season must have been devastating. The pier portion that sank with *Twilight* showed extensive damage. It sits just below the surface and I gave it a cursory examination at the beginning of my dive,



Twilight's bow sits just beneath the surface of Moosehead Lake. The 96-foot-long wreck slopes downwards from the surface to a depth of 45 feet.



After almost one hundred winters of lake ice, the bow decking and seams have started to separate, but still remain in remarkable condition.



Towards the stern, *Twilight* remains largely intact. Large entrances allow easy access to the vessel's interior.



Much of *Twilight's* metal hardware remains intact.



Once the popular spot for passengers to gather, *Twilight's* stern now sits gently in the mud 45 feet below the surface.

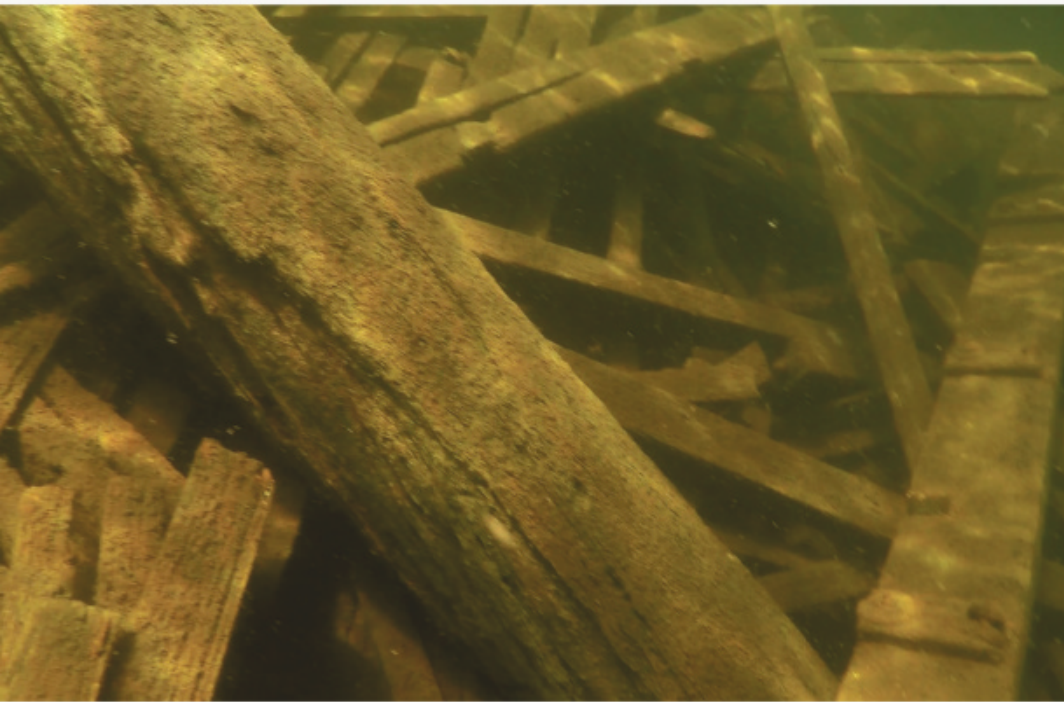
but then turned my attention to the main attraction.

Starting at the bow, I followed the vessel slowly on its gentle decline until I reached the stern at about thirty-five feet below the surface. *Twilight's* stern sits quietly in mud and looks like it gently settled there after being holed by ice. Returning to *Twilight's* bow, I noticed an inviting access hatch just behind the stem.

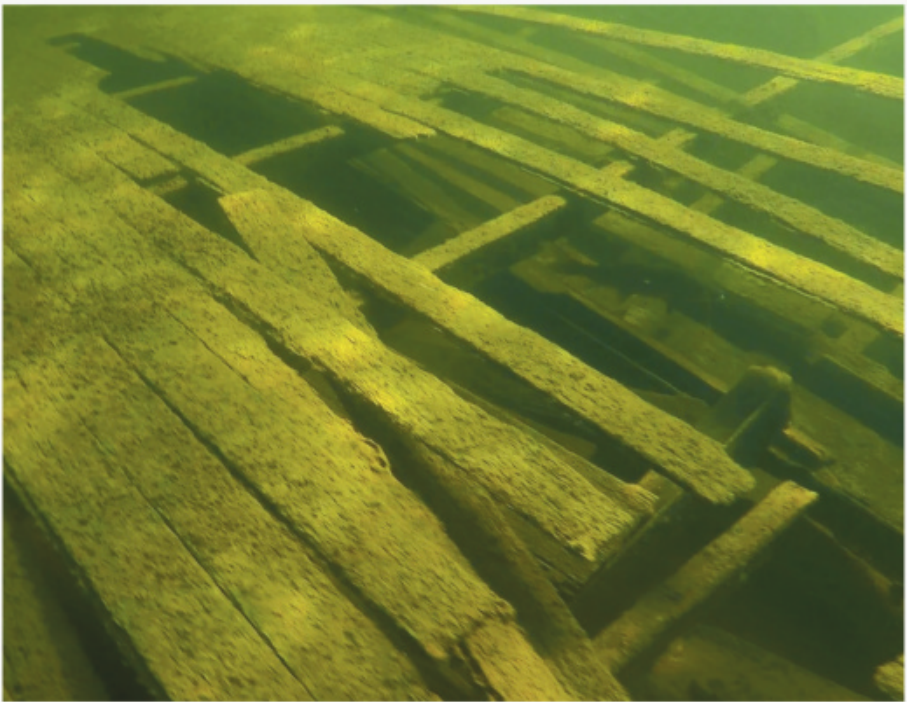
The mid-ship area shows heavy damage, and *Twilight's* superstructure is little more than piles of broken lumber. The debris is now home to a myriad of fish, which darted around us in and out amongst the pieces. This is the most extensive damage on the entire vessel. The rest is still quite intact. From mid-ship, a wide expanse of decking stretches as one continues along, and looks remarkably well preserved. There are access areas into the hold and a glimpse inside reveals remnants of a stairway in a jumbled pile.

The most interesting and haunting aspect of *Twilight* was at her stern. As I made my way to the rounded rear of the ship, the light had subtly changed due to depth. Visibility was still very good, but everything took on a more greenish tint that imbued everything with a somber hue. It was easy to picture turn-of-the-century summer passengers thronging the deck watching the lakeside scenery go by or possibly making their way to accommodations at the large hotel, Mt. Kineo House, halfway up the lake. I could almost hear excited voices and laughter of children as I poked around the stern looking for traces of those days such as straw hats, watch fobs, and elegant parasols. Alas, there were no such reminders among the shadows but the sense of history and time was indeed palpable. *Twilight* is a great visit and a dive worth doing.





Extensive winter ice damage to this forward part of *Twilight's* bridge and superstructure turned it into a jumble of debris.



The vessel's main decking is where most damage occurred, as ice smashed up the front of *Twilight's* superstructure.



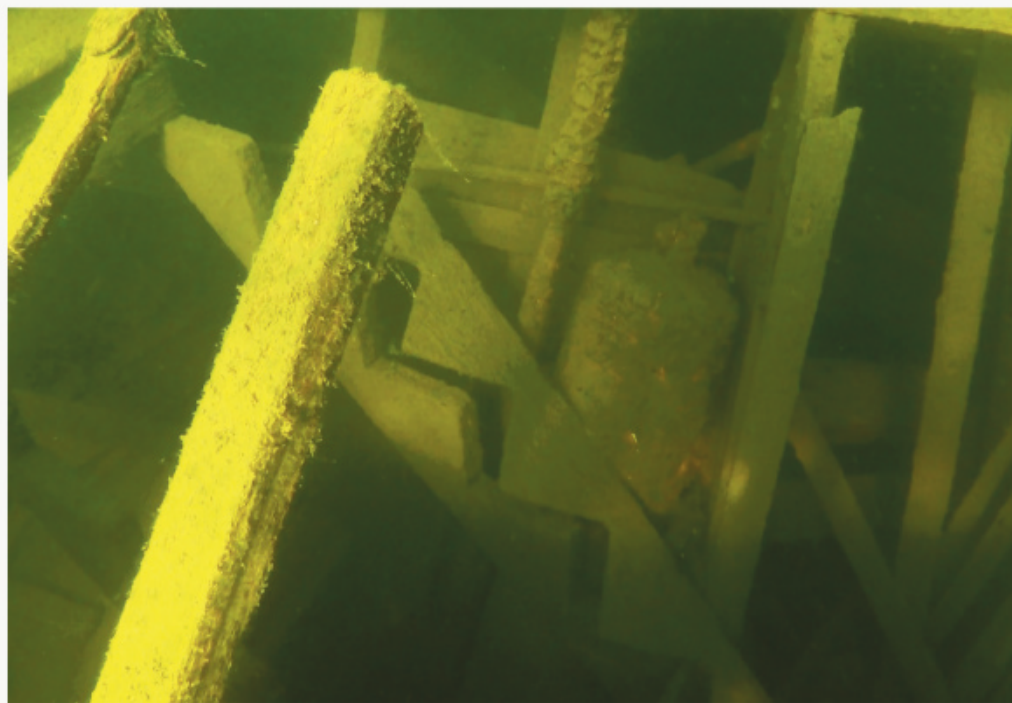
Ship hardware and debris are jumbled amid sections of *Twilight's* dock, which also was smashed by ice and sank in the winter of 1921.



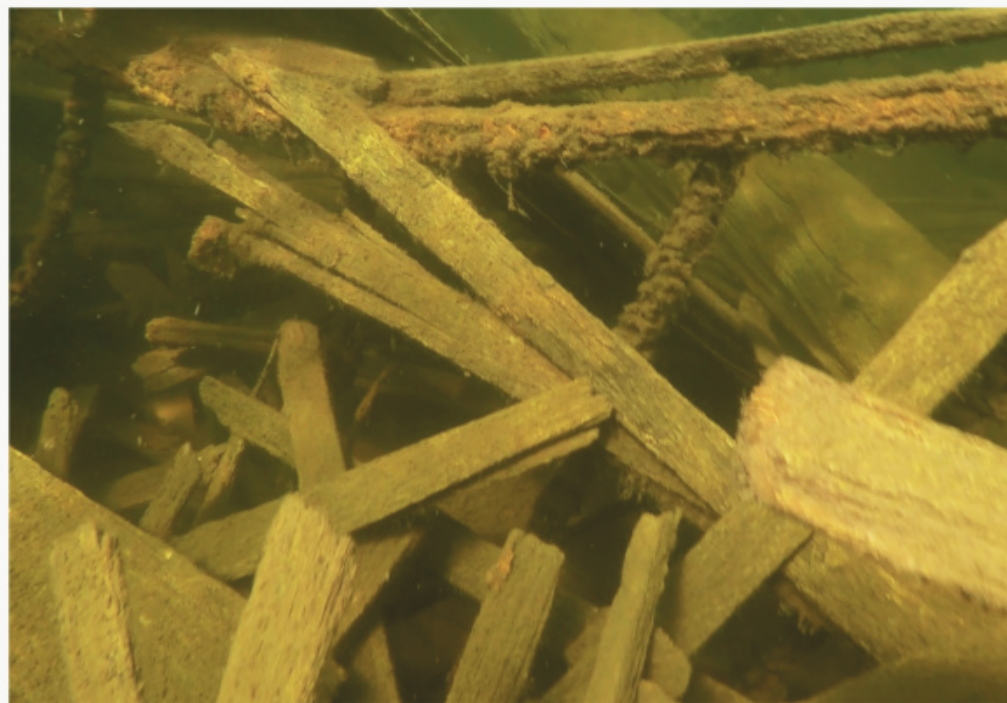
Twilight ferrying passengers on Moosehead Lake circa 1919.
Courtesy of Moosehead Historical Society & Museum



The wreck site is just a short ride from the boat ramp at Greenville Junction, Maine.



Remnants of *Twilight's* interior stairway.



Amid the debris, a railing from *Twilight's* superstructure is recognizable.

“The most interesting and haunting aspect of *Twilight* was at her stern. As I made my way to the rounded rear of the ship, the light had subtly changed due to depth. Visibility was still very good, but everything took on a more greenish tint that imbued everything with a somber hue.



Access to the wreck, while easy to reach, is by boat only.

About the author: Charles H. Lagerbom received his BA in History from Kansas State University and MA in History and Archaeology from University of Maine with work on an American Revolutionary War Truckhouse excavated on Penobscot River. An avid scuba diver, Charles organized underwater surveys of ship remains in Maine lakes as well as the 1779 Penobscot Expedition, worst U.S. naval defeat until Pearl Harbor. He worked in Antarctica with glacial geology research teams from University of Maine Quaternary Institute, now Climate Change Institute. A published author and avid polar, colonial Maine and maritime book collector, Charles has frequently written, lectured and made presentations on cruise ships, sailing vessels and ashore about history, life, politics, and science of Antarctica, Cape Horn and South Atlantic, as well as colonial Maine and New England maritime history and archaeology. He is author of *The Fifth Man: The Life of H.R. Bowers*, published by Caedmon of Whitby (1999). Charles is past National Membership Chair of American Polar Society and immediate past President of the Antarctic Society, where he serves as current archivist/historian. He teaches AP U.S. History at Belfast Area High School and makes his home on the coast of Maine. Charles can be reached through LinkedIn or at clagerbom@rsu71.org.

A Gentleman's War

Text and Photographs by Leigh Bishop



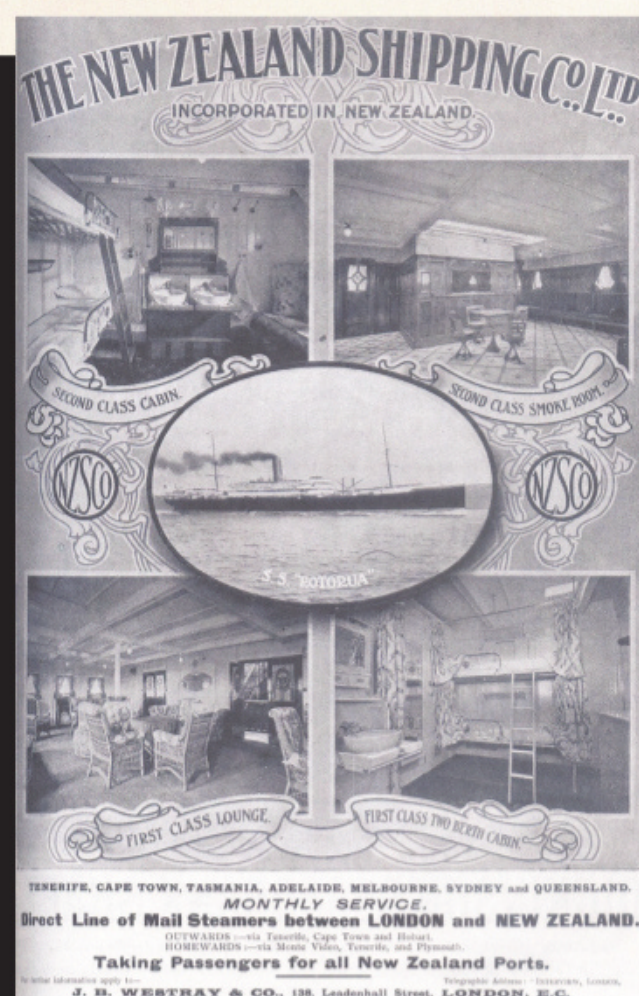
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NEW ZEALAND S. CO'S S. S. "ROTORUA".

The ocean liner *Rotorua*, sunk during World War One, was just one of hundreds lost to the U-boat war in the English Channel. But Leigh Bishop writes that, although a handful of divers were in the right place at the right time, these now 100-plus-year-old wrecks are collapsing quicker than we can dive and photograph them.

Top: This historic photograph of the *Rotorua* shows just how elegant this New Zealand ocean liner was. (Photograph Alan Dunster collection)

Bottom: A pre-war sales poster depicts just how luxurious the liner was when she was afloat.



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There are more shipwrecks in the English Channel – per square mile of the cold, deep waters between Great Britain and France – than in other locations in the world. The huge volume of shipping traffic has made the Channel a very busy waterway, with the inevitable ensuing collisions, and is one of the reasons for the large number of ships lying on the bottom. In addition, hundreds of vessels ended their sailing days on the seabed because of the U-boats of the war fought between 1914 and 1918.

World War One was waged in a very different way than the later World War Two. World War One, called “the Great War” and “the War to End All Wars,” was also called the “Gentleman’s War” because traditions of honour and almost “sportsmanlike” behaviour were highly valued at all levels of the military and governments of the countries involved. Besides the relatively primitive technology, World War One’s few atrocity and espionage stories, and dearth of dramatic battle film has made for a general lack of interest from those in charge of creating intelligent television programming, in an age when reality television is so popular, the more histrionic the better.

Having been involved in the production of television, I had witnessed first-hand just how difficult it is to have intelligent programming commissioned. Not being divers, producers often have no idea what is involved and yet expect amazing images alongside a nail-biting story only recently brought to light. A World War One shipwreck, having been under the sea for 100 years, does not really lend itself to television programming. In fact, the entire campaign witnessed just one single sea confrontation - the Battle of Jutland!

It is true to say that the wrecks of World War One are now becoming almost unrecognisable from their original constructions and those that were not mistaken for enemy vessels and depth-charged to destruction during World War Two have largely collapsed over time, leaving often confusing piles of metal on the seabed. Piles of metal on the seabed are difficult to dress up for a potential commissioning editor, and the lack of archival footage from that era in history perhaps explains why we don’t see World War One on television as we do World War Two. Of the many World War One shipwrecks I have explored, the only one we filmed for television was the *Britannic* in the centenary year of her loss. (See WDM Issue 40 – “The Million Dollar Dive”) Whilst *Britannic* is visually stunning underwater, her demise by striking a mine whilst on passage didn’t carry enough weight for a production. The only saving grace was the link with her more famous sister, *Titanic*, that would finally persuade the BBC to run with it.

Now, World War One wrecks may only be piles of metal on the seabed, but what they represent is a time capsule of history, and, for shipwreck explorers, it is the history that fuels our desire to visit them. I’ve often said that we are living in the golden age of shipwreck discovery, and what I mean by that is it is quite possible that in a generation or two to come, these shipwrecks won’t exist as they are now; they will have deteriorated and become nothing more than iron deposits on the seabed. There has never been a better

time to explore a shipwreck and it is we enthusiastic shipwreck explorers who have the ability to photographically document this era of history before it’s too late.

Within the English Channel alone, the German powers sank 700 known Allied steam and sailing ships, and 38 Royal Navy HMT (armed trawlers) / HMS warships during World War One with a loss of just 31 of their own U-boats.

The U-boats were immensely effective in destroying merchant ships delivering vital supplies to Britain. They torpedoed ships on sight, even sinking liners. On 7 May 1915, the liner *Lusitania* was sunk by a German U-boat. (WDM Issue 18) When losses spiked at 550,000 tons by May of 1917, the sinking of Allied shipping was considered so extreme that all merchant ships from then on were to travel in escorted convoys.

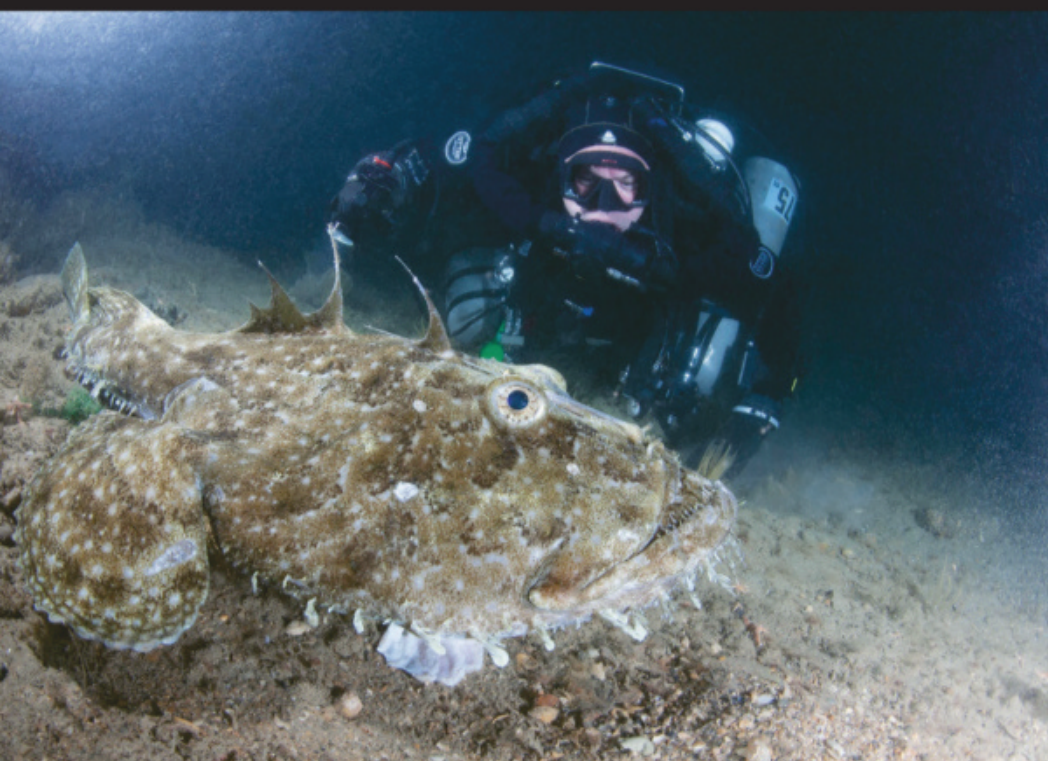
One of those unfortunate losses prior to the convoys was the *Rotorua*, a large cargo liner of some 11,140 tons, sunk by torpedo east of the English Devonshire port of Dartmouth in March of 1917.

Over the years the wreck had slowly become a popular site for divers venturing into the extended range level of their wreck diving, but at 60 meters depth to the seabed and 24 miles off shore east of Start Point (50.17.30N 03.03.15W), the *Rotorua* isn’t an easy dive by any means, and especially so when she was discovered back in 1982.

The wreck is big and lying on her side. Built by the Scottish company, William Denny & Bros. of Dumbarton in the year 1910, she was a triple-screw steamship powered by a 6-cylinder turbine engine. Built with three decks and a shelter deck, her hull measured some 147 meters in length with a beam of 19 meters. Although it wouldn’t help her when she was attacked, *Rotorua* was armed for protection against enemy action with a 4.7-inch stern-mounted gun.

I tracked down the man who first swam the decks of the great ship, Englishman Tony Hillgrove, and asked him what the ship looked like back in the summer on 1982. “It was very ship-shaped back in those days,” said Tony. “I was due to be in the second pair in the water that day but, due to a burst high-pressure hose, my partner and I splashed first.” Tony was more than happy with this, as his chances of being the first to find the ship’s bell and identify the wreck, even with elite wreck divers on board that day, had just greatly improved.

“Arriving on the wreck, I could see she was lying on her side, but I didn’t know which was port or starboard.” Of course, Hillgrove needed to head to the bow, the likeliest place he would find the ship’s main bell, especially on a virgin wreck of this magnitude. “I took a chance and swam in one direction until I reached what I thought was a rounded counter-stern and thought, ‘Damn, I’m at the stern!’ The ship was so intact back then that this so-called counter-stern was in fact a rounded upper bridge deck and, looking over the edge, I could see the first of the forward cargo holds. There was bridge gear everywhere including big telegraphs that appeared in excellent condition as well as the telemotor and helm. My heart began to beat faster knowing my luck was in as I was heading in



Top to Bottom: An access hatch the crew would have used to climb below decks.

These ornate bench ends lying amongst heavy hawser wire are now covered in marine growth.

British diver Rodger Partridge gets too close for comfort alongside a large Angler fish.

the right direction towards the bow and I wasn't going to waste time on the bridge. I pressed on past the forward cargo holds and, sure enough, soon after a short swim, there was the bell in all its glory still attached to its swan neck holder."

Taking no chances, Tony secured two lift bags to his prize and made the decision to come up with the bell choosing to do his decompression mid-water. On surfacing, he remained with the bell and helped attach lines in order to prevent a catastrophic failure of his lifting bags and losing his trophy to the seabed.

Hillgrove was a pioneer of deep shipwreck exploration in England and, back in those days, men like him breathed compressed air for both the dive on the wreck at depth and the in-water decompression phase of the dive where they used U.S. Navy tables. Hillgrove's fifteen-minute bottom time was remarkable for the time, especially since a dive on the *Rotorua* is regarded as a testing dive on mixed gas even for today. The *Rotorua* was a big dive back in those days and few ventured far off shore into deep waters. Their team was spearheaded by a man named Martin Diamond who had hired a converted fishing vessel named the *Devonian* from Dartmouth. Of course, there were no global positioning systems to find wrecks in those days, and even then, the technology the men used to find the wreck was scarce and often hired at great cost.

The summer before, Martin Diamond's team had discovered and dived the nearby huge First World War battleship HMS *Formidable*. They had known the big liner was nearby and the speculation of a possible 500 tons of scheelite cargo within her holds only fueled their desire to hunt for the old liner.

Scheelite, a tungsten ore, can be made into gemstones and is therefore highly prized. The fact that the ship stopped off in South Africa during her final journey to London and statements from a peculiar German gentleman in this story fueled rumors that the *Rotorua* could also be carrying gold-bearing ore! Some evidence even suggests the famous Italian salvage company, SORIMA, spent time over the wreck at one stage! A company that recovered the gold from the SS *Egypt* in 1930 (*WDM* Issue 21) would certainly have taken an interest in the *Rotorua*'s gold cargo, had it ever existed.

By 1984, a consortium of divers made up of both Harrow and Kingston sub-aqua clubs, headed up again by Martin Diamond and friend John Hay, purchased the wreck from the war risks insurers. Their equal shares of the vessel on payment cost each man a massive £12.50 each!

Back at the time of the ship's sinking in 1917, the British Admiralty was interested in the fate of the *Rotorua* and the onus was clearly carried on the shoulders of the ship's master, Isaac Ashton Sutcliffe.

She was owned at the time of loss by the New Zealand Shipping Company Ltd., and had taken the long voyage from Wellington, New Zealand, to London with a cargo of 5600 tons of general NZ produce for the British Government. It had taken seven weeks from the time of sailing on February 1, 1917, to arrive at Plymouth where all 238

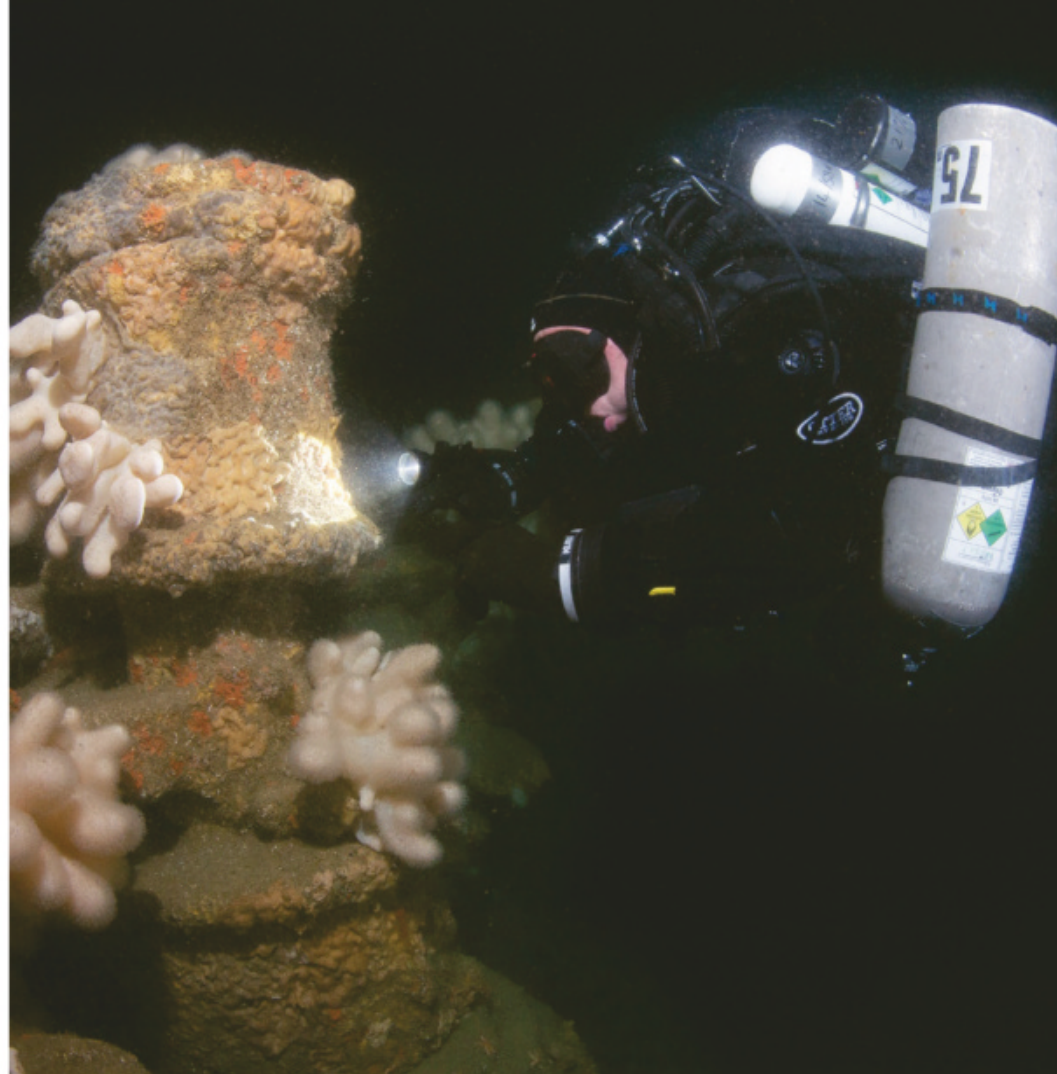
passengers and mail were landed at 6 p.m. on March 21.

The following day, the master sat down with Mr. Bussey, the Plymouth pilot, to discuss the best possible route through the Channel towards London.

Using his chart, Bussey pointed out to Sutcliffe the dangerous areas to avoid and, specifically, that he would be wise to hug the coastline and pointed out particular headlands to reduce the risk of enemy submarine attack. He also pointed out to Sutcliffe that he should have had written instructions of how to navigate the Channel but for unknown reasons he had none.

Rotorua began her journey up the Channel, London-bound, the following day at noon. Late into the afternoon at approximately 5:45 p.m., she was cruising at 13 knots and, where Sutcliffe was told to stay within five miles off the coast, he was in fact 28 miles off! It was a massive mistake by the master, and the ship was soon spotted by the German submarine, *UC-17*, commanded by Kapitänleutnant Ralph Wen. A ship the size of the *Rotorua* presented an easy target for such an experienced submariner and, a few moments later, a torpedo slammed into the starboard side of the steamer just behind the engine room.

Sutcliffe was below at the time and immediately rushed to the bridge. He soon grasped what had happened and ordered the whistle to be blown in order to summon all hands to their boat stations. The first and third officers



Above: British diver Rodger Partridge examines deck machinery close to the bow.

Below: Winch machinery located close to the forward cargo holds.



were on the bridge and had seen nothing of the approaching torpedo or for that matter the submarine which had fired it. Sutcliffe ordered the engines to be stopped and an SOS to be sent out by wireless. According to the official public war records office at London's Kew Gardens, Sutcliffe claimed that he threw his ship's papers over the side in a weighted bag.

The ship settled fast by the stern and, as soon as she came to a standstill, the boats were lowered with all the crew. At this point, Mr. Williams, the steward, was thrown out of the boat as it hit the water below and despite desperate attempts to save him, sadly he drowned, making the total loss of this incident just one single person.

Rotorua sank about a half hour later and because an SOS had been sent out, British patrol boats *Sea Monarch* and *No 609 Douraco* were on the scene within the hour and all crew members were landed safely at Weymouth at around midnight.

As a result of the loss and what was said to be an easy kill for *UC-17*, the Admiralty was not impressed with the Master's actions. They also didn't believe that he had no proper sailing instructions but, despite his catastrophic error, there are no recorded details of any disciplinary action taken against him.

After the sinking, the New Zealand Shipping Co. transferred the name to another ship. The *Shropshire* became the *Rotorua II*. The next man to set eyes on the original *Rotorua* would be deep diver Tony Hillgrove, some sixty-five years later!

I had first dived the wreck, using mixed gas during late August in the summer of 1995, whilst diving from the Dartmouth vessel *MV Maureen*. I had read the wreck was huge, but for me it was a considerably different shipwreck than what Hillgrove and Diamond had witnessed thirteen years before me.

Rotorua lies broken and scattered on a very silty, muddy seabed at a depth of between 55 and 60 meters. Although

practically unrecognizable, I did see her to be lying on her starboard side. Due to several river estuaries off the coastline, often is the case that the visibility in the area is poor. Added to the fact that the wreck is fairly collapsed and well scattered, the diver is left with no option other than to return several times to the site before building up an entire picture of the wreck. My most recent dive to the site was in the summer of 2018.

The bow area of the wreck is the most intact and stands proud for approximately 10 meters beyond the bow. As one moves towards the stern, the wreck becomes what would be expected of a wreck of World War One vintage - incredibly broken - and the diver finds navigation somewhat difficult. All around the engine room, the superstructure has collapsed, leaving her huge turbine engines exposed and standing proud above the remaining wreckage. Most of the hatches are seen with their combings obvious and, as one looks inside, it appears as if there is wooden flooring deep inside each one. A number of deck houses still remain, as do various winches and capstan braking systems. It is difficult to determine the bridge area but is thought to lie on the lower seabed side of the wreck. The wreck lies north-south with her bow facing north. *Rotorua* was constructed with second-to-none fittings. Divers of the owners' consortium had discovered some serious, early twentieth-century artifacts over the years, both from the seabed and inside her. Currently, porcelain, including dishes, bowls, cups, and silver spoons, as well as wine bottles and ginger beer bottles can all be seen, especially at the stern. The wreck also has a number of extremely large portholes lying around, but, as to the rumors of cargo, who knows what the wreck will reveal as she collapses even more over time?

Boats: Weymouth 32.4 miles, Lyme Regis 25.1 miles and Dartmouth 24 miles



A section of broken mast lying along the starboard side seabed.



Several hatch combings around the wreck can clearly be seen. Within the holds remains a teak floor construction.



Top Photo: A bridge telegraph lies amongst the forward wheelhouse wreckage on the seabed.

Center Left: Portholes recovered from the wreck in the mid-1990s; the author is pictured centre.

Center Right: Texas diver Aaron Grigsby prepares to dive the *Rotorua*.

Left: Italian photographer Antonello Paone visits the English Channel to photograph *Rotorua*.

About the Author: Leigh Bishop, a world-renowned, deep shipwreck photographer and technical diver, has been on expeditions to many famous shipwrecks and has explored over 400 virgin shipwrecks in the last 20 years. He works for the fire & rescue service and lives in England.

A World War II Wreck in Lebanon – The Submarine *Souffleur*

Text by Marc Langleur

Photographs by Erwan Savin & Marc Langleur

This is the story of a destination almost unknown to divers - Lebanon - and a French submarine wreck 40m deep off Beirut. Now, there is something to stir curiosity!



A few years ago, I became interested in submarine wrecks, and, in my research, a name appeared - *Souffleur*. It was a name I did not know, that I had not seen anywhere, and which sank in Lebanon. After a few months of preparation, my friend Erwan and I left to investigate this shipwreck.

The submarine *Souffleur* was part of the [Requin or] "Shark" class of 1924. Those ships, numbering nine, were built for France for long-range and deep missions. These 950-ton vessels were launched between 1924 and 1927, and specifically designed to operate in remote stations. They had a range of 7700 nautical miles and could cruise for 30 days, with an operational depth of 80m. They also had ten 550-mm torpedo tubes, including four bow, two stern, and four in two movable external benches, and 16 refills. Between 1935 and 1937, they were extensively modernized, and between September 1939 and June 1940, they operated mainly in the Mediterranean, patrolling the French and African coasts. There were, in alphabeti-

cal order, the *Caïman*, the *Dauphin*, the *Espadon*, and the *Marsouin*, which was the only one to survive the war. It was retired from service in 1946. Then came the *Morse*, the *Narval*, the *Phoque*, the *Requin*, and the *Souffleur*, which was built in Cherbourg, launched in October 1924, and put into service on August 10, 1926. 78.25m-long, 6.84m-wide, 5.10m of draft, and equipped with two diesel engines and two electric motors, its speed was 14 knots, and carried a crew of 51 sailors.

The historical context and the tragedy

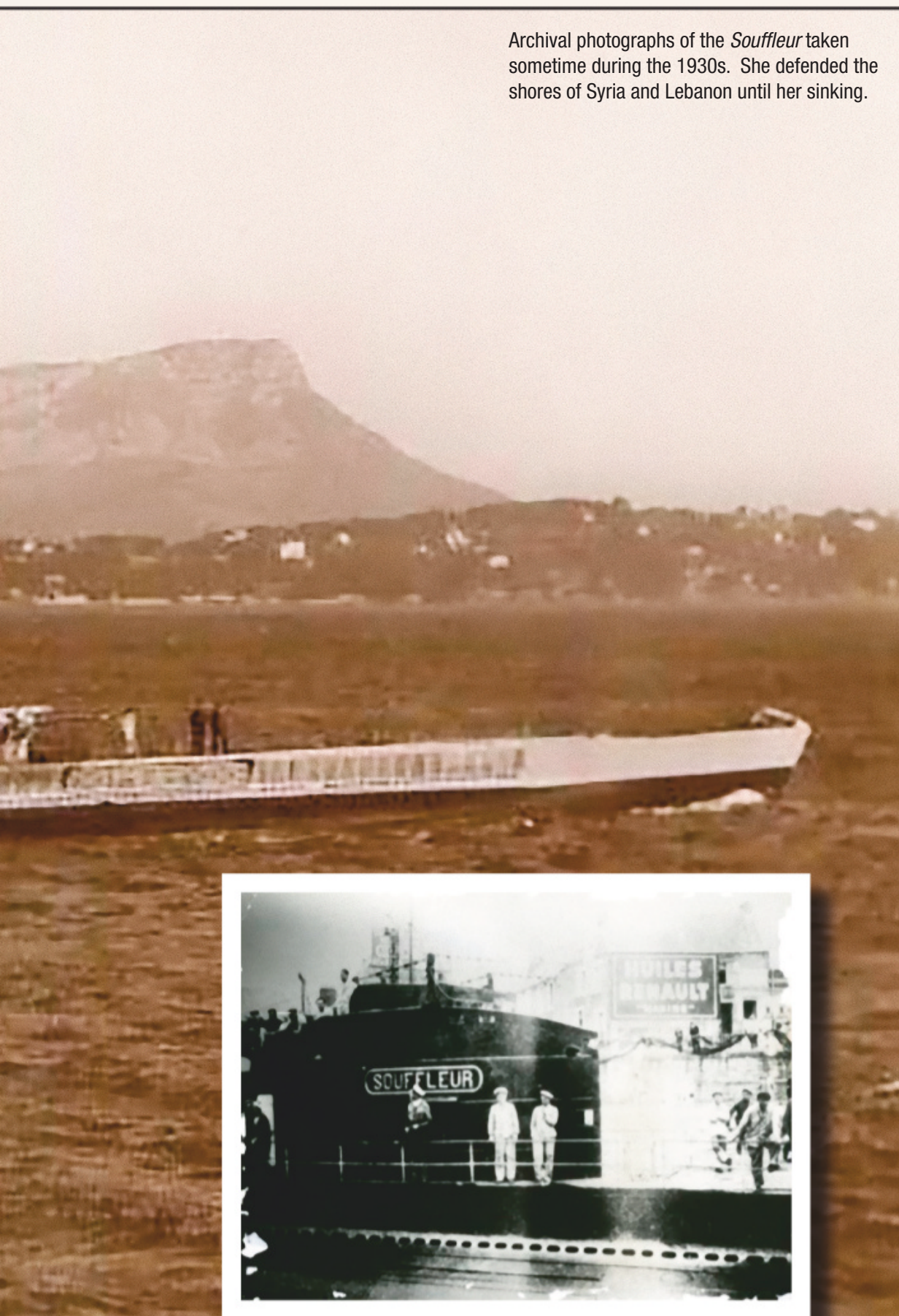
Explaining the geopolitical situation of this time is not easy; the situation was complex and involved several forces. Lebanon in those years was under "French mandate," a protectorate, until November 1943, its date of independence. Lebanon depended, therefore, on the authority of Marshal Pétain's government, which in 1940 had asked the Germans for an armistice. At the same time, Vice Admiral

Muselier created the Free French Naval Force (FNFL), and General De Gaulle in London launched his call for resistance. "Honor and country, value and discipline" was the motto of the Navy. It was not easy to be "dissident" for the engaged, a word that has always sounded bad in the ears of a body historically attached to discipline. Beirut, in 1941, suffered several bombings from the British Army, which considered the Vichy government the enemy of the Allies and the French Naval forces in Lebanon.

On his arrival in Beirut in April 1941 aboard the *Souffleur*, Lieutenant de Vaisseau Benoit Lejay reported a recurring problem of recharging the batteries. They were worn out and had to be replaced, but he did not have time. On June 25, when the *Souffleur* was cruising off Khaldé, south of Beirut, it was spotted by the British submarine, HMS *Parthian*, which observed it on the surface because of its failing batteries. When *Souffleur* came within range of torpedoes, the *Parthian* launched four torpedoes, and one reached the goal.

Five men were on watch on the *Souffleur* bridge, and were able to jump into the water when they saw the torpedo rush toward them. The explosion was huge, and the *Souffleur* sank instantly, bringing the rest of the crew with it. Only four survivors were able to reach the beach 4km away, after nearly three hours of pain. We know today, thanks to the research of Admiral Khadem, whom we met in Beirut, that these sailors died for France, and that if they had had the time, they would certainly have joined the FNFL.

Archival photographs of the *Souffleur* taken sometime during the 1930s. She defended the shores of Syria and Lebanon until her sinking.



The *Souffleur* wreck was first discovered by an English dive team in 1973. As for the Royal Navy submarine, HMS *Parthian*, it was reported missing in action in the Adriatic Sea in August 1943, and has not been found.

Diving on the *Souffleur*

We left very early from Batroun, our base camp, to make the 1h30 trip that separated us from the dive site. Kamal, our always smiling guide with good communication skills and a sense of humor, told us about his country, what we would see along the coast, the dives that were to be done. The sea had an almost smooth surface, and the sun began to be very hot, although we were already in October. We sometimes saw “Exocets,” usually called flying fishes because their pectoral fins, very developed, allow them to jump out of the water and hover for a few moments.

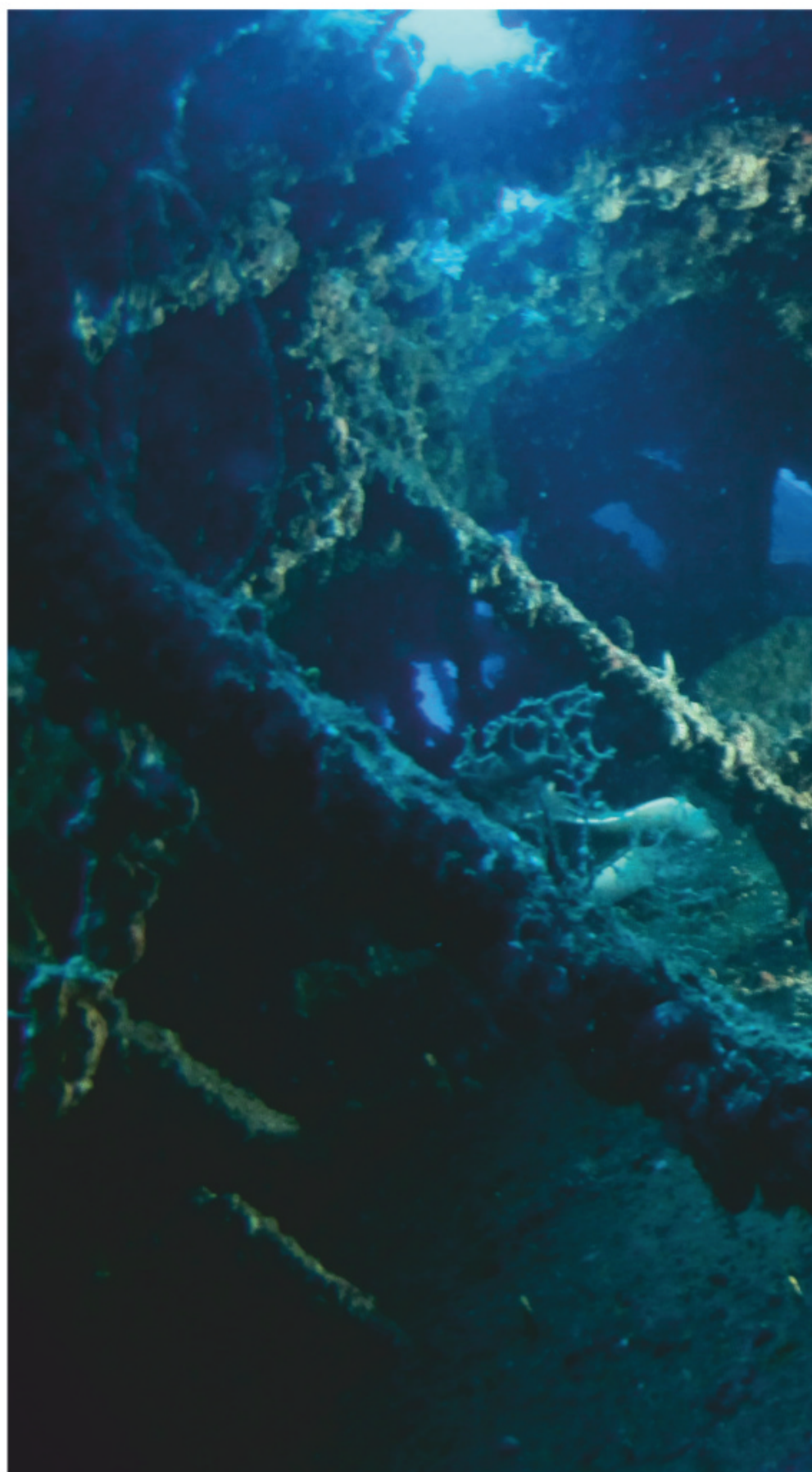
That was it! There we were on the site. Kamal monitored the sounder, then gave the signal to his friend, “Pirate Joe,” to launch the pig. The surface buoy did not move a hair - zero current. In the distance, we could see the beach of Khaldé, where the survivors of the shipwreck had arrived, 4km away. The water was clear and warm, and I was very cautious. I dive all year with a drysuit, but for this time, I thought, let's be crazy! I would not put on a hood!

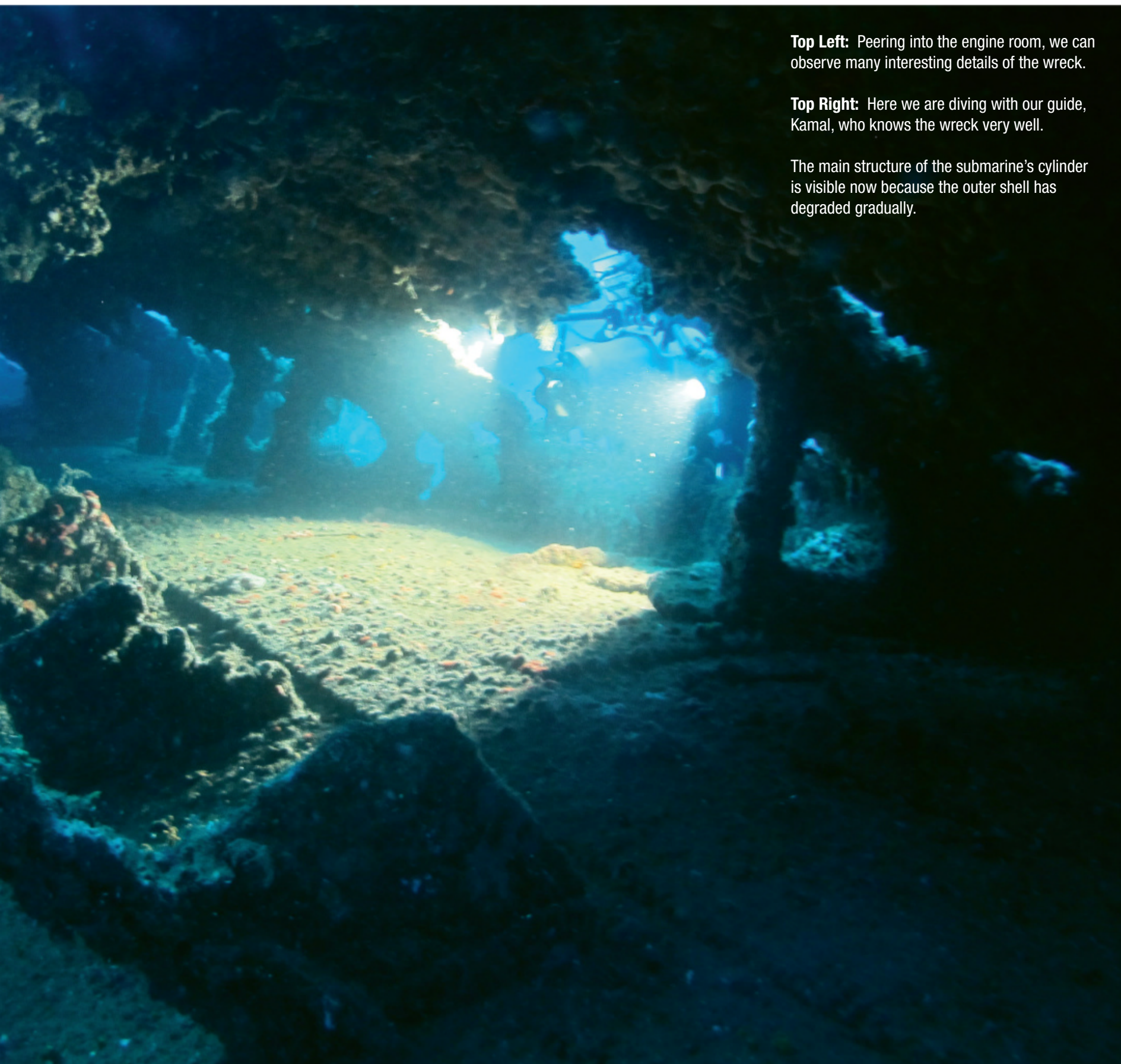
As for equipment, not knowing what could be the (possible) difficulties for a Customs crossing with a rebreather, I had opted for convenience. We decided to take the necessary equipment for our dives directly from Kamal's dive center, so we would dive on open circuit, with nitrox decompression.

Once we were in the water, we went down without an ounce of current and quickly saw the dark and impressive mass of the wreck that rests in 38m to the bottom. During the descent, I remembered the elements of research we had collected so far: the history of the submarine, the crew, the sinking, and especially a very strong moment when, a few days before departure, I had a phone conversation with a lady, 85 years old, who had been seven years old at the time of the tragedy. She was the daughter of Commander Lejay, who died aboard his ship, the *Souffleur*. “My greatest regret,” she told me, “is that I have never been able to go to the scene of the tragedy where my father disappeared.”

The pig was positioned exactly where we wanted - three meters from the central part of the wreck. I saw a lion fish, or scorpion fish, and as my eyes quickly got used to the dark, then I saw many! We were in the Mediterranean, this species is invasive, and it would not be surprising to see them on the coast of Marseille in a few years!

From the outset, what impressed me was the good, general condition of the wreck, although it had been cut in two by a torpedo. The cut was straight, with almost no deformation, as if we had taken a saw to split it into two parts. It should be noted that during the 1980s, it was dynamited several times by professional divers to scrap it, so do not be offended, it was an economic necessity at the time. Erwan and I also found in Beirut, at one of these old pro scaphs, some parts from the submarine.

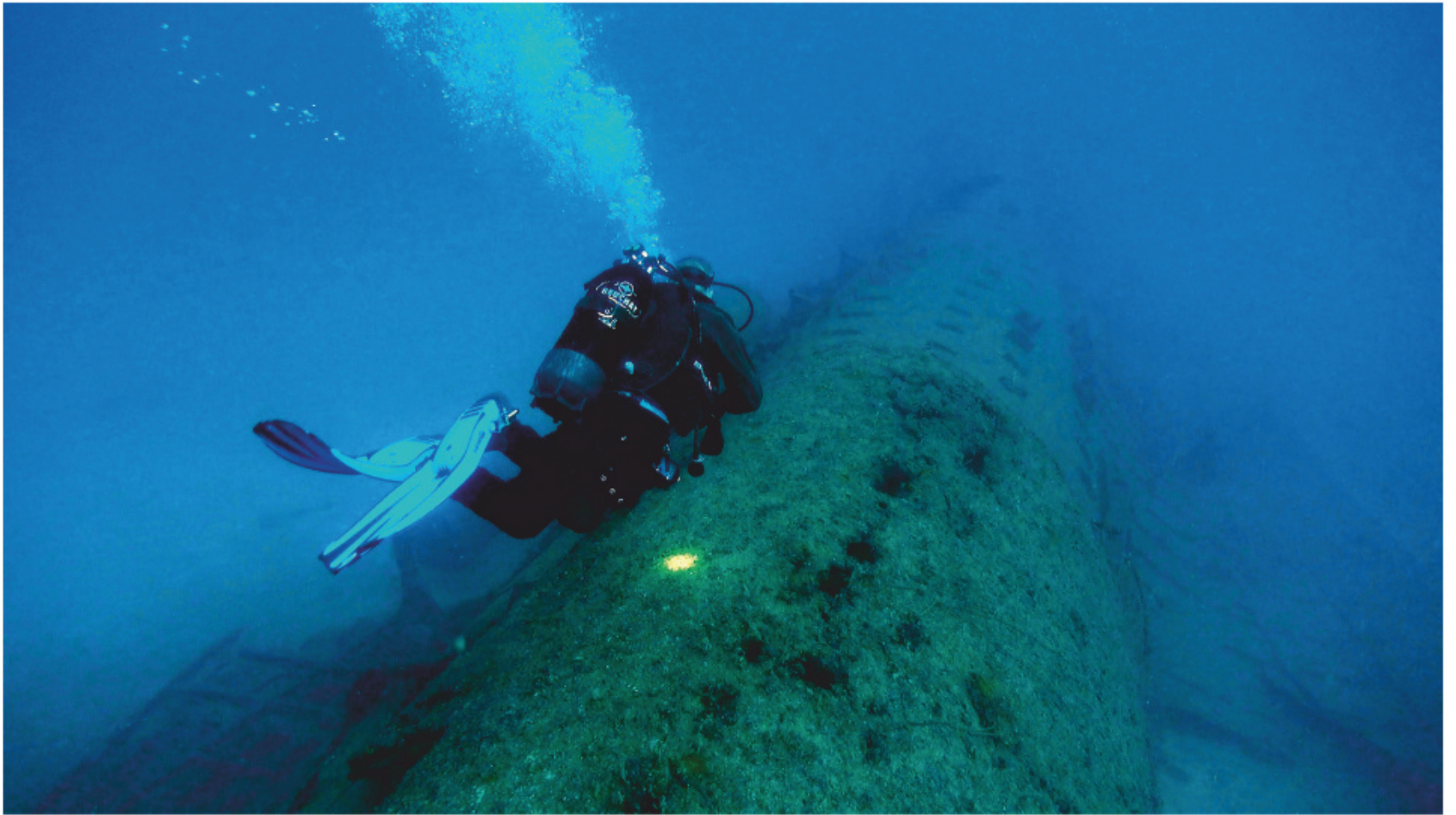




Top Left: Peering into the engine room, we can observe many interesting details of the wreck.

Top Right: Here we are diving with our guide, Kamal, who knows the wreck very well.

The main structure of the submarine's cylinder is visible now because the outer shell has degraded gradually.



We made our way to the stern with the hopes of finding the propellers, but....



Wonderful conditions for the first dive on the forbidden submarine. The sea was like a lake, and we were excited to discover the wreck.

The dive center in Batroun town, the best tech diving center in Lebanon. The owner is Kamal Greig, tech and CCR instructor.

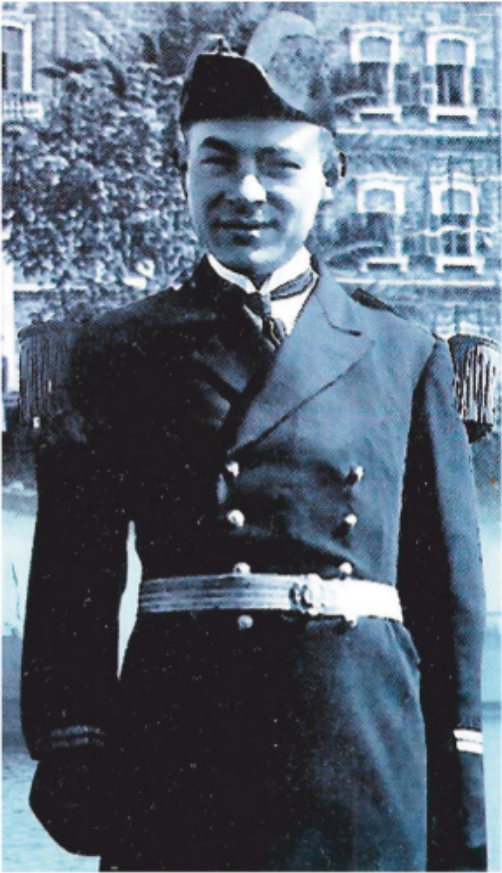
Beyrouth view. The wreck of the *Souffleur* submarine is about three miles from the city harbor.



The bow was tilted to the port side, with the characteristic fuselage and the chain-cut cable still in place. The other part of the wreck, inclined to starboard, and separated by a dozen meters from the front, was most imposing, massive, and majestic, with an immense opening due to the break, where one could penetrate without much difficulty, being careful, however, not to kick up sediment. Our progression was stopped by an interlacing of various cables. We continued to explore from outside, at the kiosk [sail or fin], and up to the stern. At about 32 meters deep, we arrived on the bridge where on the front were two turrets. The kiosk casing had disappeared, revealing the various control elements, ventilation chimneys, and periscopes. We could access the engine room, which was almost intact. Continuing towards the stern, along the starboard

hull, we could see the torpedoes in places through openings. Compressed air tanks for emptying ballasts were visible. We tried to see the propellers, but it seems that they had been removed to the surface. A stingray, certainly surprised by our bubbles, passed above us to take refuge farther away. The double hull in some places was missing because of corrosion and blasting, but it did not detract from the beauty of the wreck, despite the tragedy that took place there. A little farther away on the sand was a torpedo, still active.

There is fabulous potential in Lebanon for history buffs and explorers of wrecks as well as the sunken city of Tîre. Lebanon is an incredible country to discover, where a sweet life reigns, provided to escape the hectic life of Beirut.



Commanding Officer Lejay was only 36 years old when he disappeared with his crew. He never saw the new house that his wife had just acquired near Bordeaux, in the South of France.



Acknowledgment: Kamal Greig, on Facebook or kamal.divethemed@gmail.com

About the Author:

Marc Langleur, 53 years old, lives in the south of France. A diver for more than 30 years, he is a Dive Master and CCR Trimix diver. Passionate about wrecks, exploration, and history, he regularly organizes shipwreck expeditions.

Commemorative plate on a French monument in Toulon, in honor of French submariners dead or missing in action. We can see “Souffleur” with all the names of those lost on 25 June 1941.



French national monument in Toulon in front of the sea, dedicated to lost submariners, was inaugurated in 2009.

Inset: Statue of sponge diver in Batroun, in memory of the main activity in the last century in this town.



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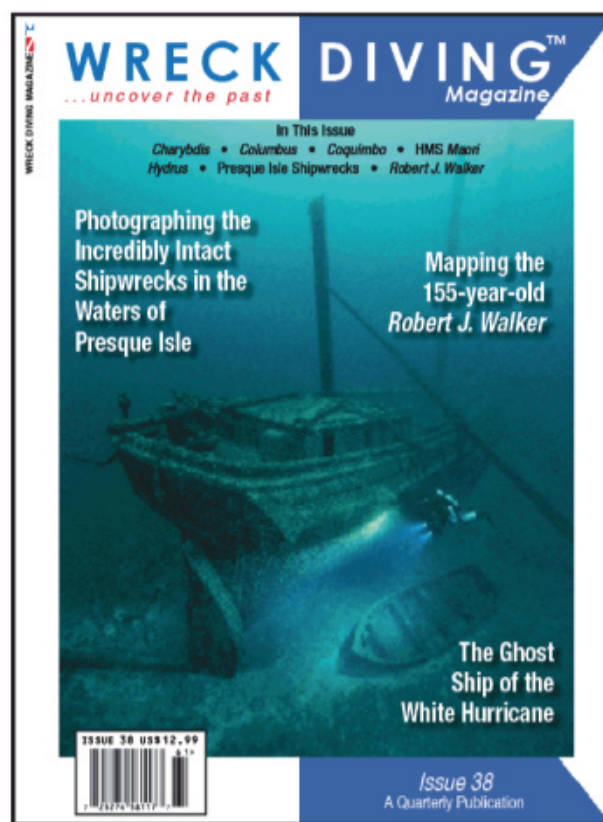
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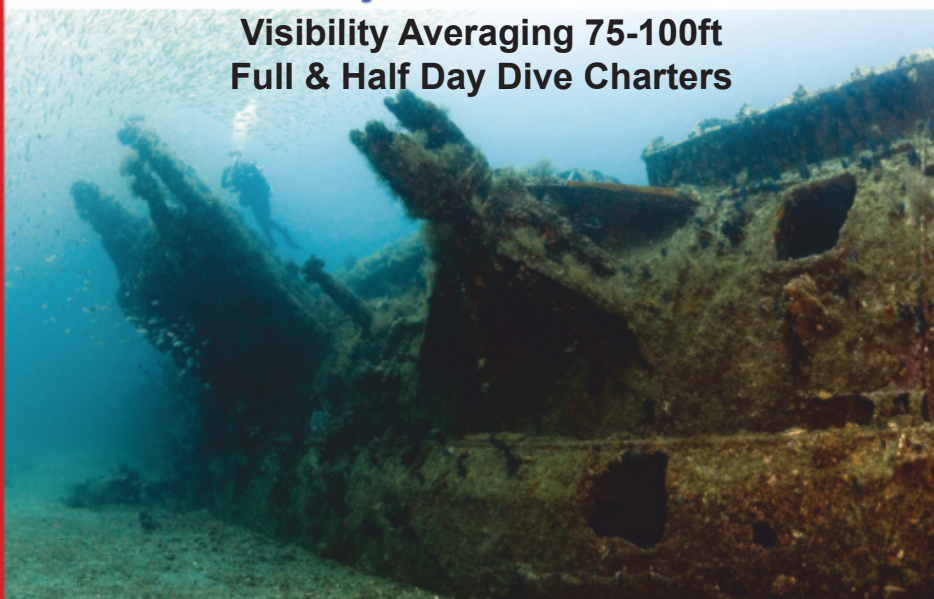


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